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API Research Project 37--The Fundamentals of Hydrocarbon Behavior

ABSTRACT

The purpose of this paper is to review briefly the nature of the work and the significance of the contributions of the research performed under API Project 37 since its inception 26 years ago. During this time the project has been concerned primarily with a study of the equilibrium behavior of hydrocarbon mixtures as they occur under conditions which exist in petroleum reservoirs.

In the middle 1920's forward-looking thinkers engaged in petroleum production began to recognize that oil and gas, as received at the surface, probably have quite different properties from those which exist in in the underground reservoirs from which the fluids are produced, and that a knowledge of those differences may provide a basis for developments which may lead to substantial increases in the recovery of petroleum from oil fields. The studies performed under Research Project 37 have produced many significant data regarding the behavior of hydrocarbons under reservoir conditions, and the results of these researches have had a marked effect on the technology of petroleum production.

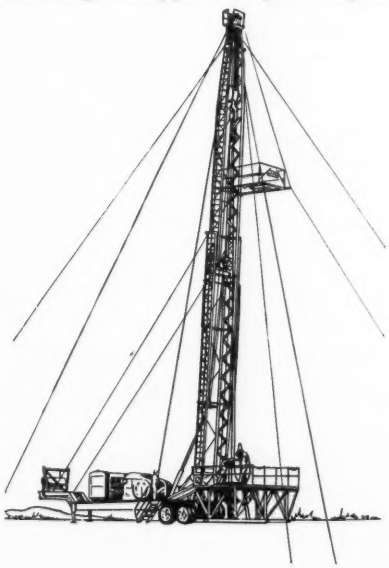
At the present time the project is concerned primarily with non-equilibrium behavior; and this, it is believed, may be of importance in production technology on a basis comparable with that concerning equilibrium studies.

A Program of Production Research

By

J. E. Sherborne* and B. H. Sage†

Current effort is concerned primarily with gas and liquid diffusion under a wide range of pressure and temperature conditions, and with supersaturation under similar conditions. Initially, the work is restricted to simple mixtures of hydrocarbons. Other important activities of this project include preparation of a monograph on thermodynamic properties of hydrocarbon and related mixtures, as well as developments of techniques for increasing the range of applicability of "equations of state" for the prediction of hydrocarbon behavior.



Equilibrium Conditions

During the late 1920's with the substantial production of petroleum from underground reservoirs at depths in excess of 5,000 ft., it became evident to operators and technical personnel that petroleum in place in the under ground formation undoubtedly possesses properties somewhat different from those of the fluids which are collected in stock tanks. The early work of Beecher and Parkhurst[1a] indicates that some of the physical properties of hydrocarbon liquid under the conditions encountered in petroleum reservoirs are markedly different from those found in the stock tank.

As a result of the interest of John D. Rockefeller and the Universal Oil Products Company, a number of research projects were begun in 1926, to be conducted by the American Petroleum Institute. The purpose of these projects was to investigate the characteristics of petroleum and its components in the production and refining operations of the oil industry. At this time Propect 37 was initiated at the California Institute of Technology, under the title "Fundamentals of the Retention of Oil by Sand," with Professor W. N. Lacey as its director. It was realized by Professor Lacey that many of the conditions encountered in petroleum production probably would not approach

equilibrium, and a number of preliminary measurements of the Fick diffusion coefficients in hydrocarbon liquid phases were made. These studies indicate that equilibrium is rapidly approached in thin films of liquid, but that complete equilibrium probably will not be obtained throughout the extent of larger fields even at geologic time.

It was apparent that much research into hydrocarbon behavior was required, with respect both to equilibrium and non-equilibrium conditions. Inasmuch as a knowledge of behavior at equilibrium is essential to an adequate study of non-equilibrium behavior, attention was first directed to research upon hydrocarbons at equilibrium. The early work was directed to the study of natural mixtures which had been prepared by the recombination of oil and gas phases obtained at the surface of a producing well. The marked changes in viscosity and specific volume of the liquid phase which resulted from the solution of the lighter components became evident. The problem was sufficiently complex so that it appeared that progress would be enhanced by a detailed study of binary mixtures of the important components of petroleum.

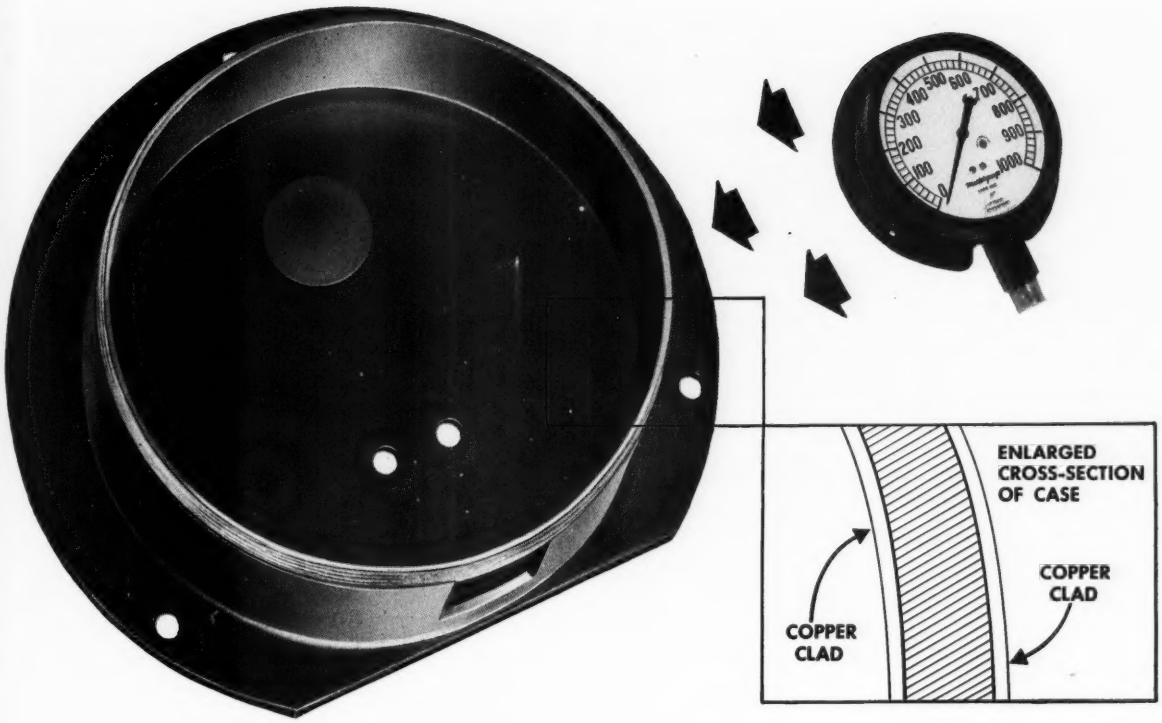
Studies of binary hydrocarbon mixtures were initiated by Project 37 in 1931. The methane-propane system was the first to receive detailed attention. A total of at least 20 binary systems has been investigated, at pressures up to 10,000 psi and for temperatures between 40 F and 460 F. In the early work upon these binary systems, and upon similar systems typified by the condensate field, it was found that the concentration of the less-volatile components in the gas phase increases manyfold beyond the concentrations predicted from the simple relations then applied to hydrocarbon behavior. It became evident from this experimental work at many hydrocarbon mixtures possess critical pressures within the range of conditions encountered in petroleum reservoirs. Therefore, the phenomenon of retrograde condensation, which had been primarily a laboratory curiosity, came to be of direct importance in the production of petroleum. The work of the project contributed substantially to the knowledge of the effect of composition upon the critical pressures and temperatures of binary hydrocarbon systems.

In order to investigate more completely the interaction of one component upon the behavior of another, a study was made of the ternary system, methane-nbutane-decane. It was found that the critical behavior of such systems is fairly regular, but that it is necessary to take into account the nature and amount of each of the components if the properties of the phases in homogeneous and hetergeneous equilbria are to be predicted.

During the late 1930's much effort was devoted by a number of individuals to the application of the relations of ideal solutions to the prediction of the properties of hydrocarbons. Unfortunately, hydrocarbon systems proved not to form ideal solutions at elevated pressures, and the experimental work of the project served to illustrate the need for a more comprehensive means of predicting the characteristics of homogeneous and heterogeneous systems. The so-called "equilibrium constant," widely and effectively used to predict the composition of co-existing phases, was found to be markedly a function of the nature and amount of each of the components making up the system. It is now widely recognized that the equilibrium ratios are a function of state, and thus have only limited utility for the direct prediction of the composition of co-existing phases at elevated pressures.

The development of equations of state which would describe with reasonable accuracy the thermodynamic characteristics of pure hydrocarbons was extended by Benedict[2] to mixtures, and Benedict's equation proves [3, 4, 5] to be one of the more accurate means of predicting the properties of hydrocarbon mixtures in the liquid phase. Project 37 extended the range of application of the Benedict equation to the liquid phase, and also extended to 10,000 psi the range of applicable pressures —this extension being in increments from the former maximum of 4,000 psi. Statistical methods were developed which permitted the experimental data to be employed directly in the evaluation of the applicable coefficients. At present the Benedict equation is an excellent tool for predicting the volumetric behavior of liquid and gas phases throughout the range of pressures and temperatures encountered in petroleum reservoirs. However, it is not so useful for prediction in regions where there are no experimental data for the components. It appears that one additional term will be required in order to permit the Benedict equation to describe the phase behavior of the components of petroleum and their mixtures under many of the conditions of interest in production. The advent of nearly automatic digital computing equipment has permitted the utilization of more complex analytical expressions for such purposes, without excessive manual effort. As a consequence, it is readily possible to add to the framework of this prediction method without the need for its complete revision. As additional experimental information is obtained, it may be added to the existing background without the necessity for re-establishing all the coefficients.

It is desirable to use the Benedict equation for the prediction of the thermodynamic properties for a particular multicomponent system over the range of conditions of particular interest rather than to prepare in advance extensive tabulations covering all conditions which might be of interest. The effort required to calculate the properties for a number of states for the same system is not markedly greater than that necessary to determine the behavior at a single state. The prediction of the behavior of a system over a range of states permits the results to be presented in a form familiar to the practicing engineer, and avoids the need for recourse to elaborate computational efforts for each individual problem. The need for a systematic general-purpose method of predicting the thermal, volumetric, and phase equilibrium behavior of hydrocarbons is real. The Bene-



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dict equation offers a reasonable approach to this problem. Project 37 is continuing to extend the applicability of these methods, and it can be expected that a satisfactory framework will evolve for such prediction techniques.

Perhaps the most significant index of the effect of the contributions of Project 37 is the extent to which the concepts with respect to the mechanism of fluid behavior in the reservoir held by those concerned with oil production have been modified. Today such terms as "retrograde condensation," "formation volume factor," and "saturation pressure" are in common use by almost everyone concerned with oil production. Almost every major company had a laboratory for obtaining pressure-volume-temperature data on oil-field hydrocarbon mixtures, and many small companies obtain similar data from commercial laboratories. The knowledge produced by Project 37 forms a basis for the present-day concept of good engineering practice.

Non-equilibrium Phenomena

Having established a suitable background of equilibrium data, the project has been directed to the equally important study of non-equilibrium behavior.

The non-equilibrium phenomena of interest to the petroleum industry may conveniently be divided into two categories. The first relates to the transport of material and energy through hydrocarbon phases as a result of concentration and temperature gradients. The early work of Onsager[6] laid the basis for a systematic consideration of the interrelation of such transport processes under steady conditions. The efforts of the project are now directed to the evaluation of diffusion coefficients in the gas and liquid phases under the conditions encountered in petroleum reservoirs. It is found that the coefficients vary markedly with state. The generalizations based upon statistical mechanics which have been developed by means of the contributions of such men as Chapman and Cowling,[7] serve primarily to depict the behavior which may be expected of hydrocarbon systems at low pressures or at small concentrations of the diffusing component. An understanding of transport phenomena is desirable for a more complete determination of the reservoir behavior to be expected under various methods of production. There exist significant opportunities for the molecular transport of the components of petroleum during the production operations. The problem is complex; but unless an understanding of these processes is available, it will be difficult to ascertain the optimum conditions for the recovery of oil and gas from a petroleum reservoir.

A second part of the non-equilibrium studies with which Project 37 is concerned is the behavior of supersaturated liquids or sub-cooled gases. The behavior of such strained systems which are not at equilibrium is difficult to predict. For example, when the pressure upon a gas-saturated liquid is decreased below the equilibrium bubble point, the phase is said to be supersaturated. Numerous factors influence the tendency toward the formation of gas bubbles. Among these, vortices and nuclei appear to be of particular importance. Project 37 is beginning a study of the importance of these and other factors upon the attainable supersaturation in hydrocarbon liquids. A knowledge of such factors will permit the prediction of conditions under which gas begins to separate from a liquid phase at a distance from a producing well at a petroleum reservoir. It is probable that a statistical approach must be employed in order to interpret the data concerning supersaturated liquids, and that some uncertainty will always exist with respect to these matters.

A more satisfactory understanding of supersaturated liquids and sub-cooled gases may be required if the production from petroleum reservoirs is to be controlled. More adequate knowledge of the transport of the components of petroleum under the concentration, temperature, and pressure gradients which are encountered during production operations also appears important for the improved recovery of petroleum from underground reservoirs. It is expected that progress in this field of research will be relatively slow, and that a number of years will be required before an adequate understanding of these complex phenomena can be attained. Efforts are being made to follow the same approach used in the equilibrium studies. Investigations are being made of the non-equilibrium behavior of pure substances and simple mixtures and, from these, the more complex behavior of petroleum will be estimated.

During the life of the project many persons have contributed to its progress. Their efforts have been reflected in authorship and acknowledgment in publications and reports. During the past 25 years Project 37 has contributed to the public literature considerably more than 100 published papers, and has circulated a number of reports to interested members of the American Petroleum Institute. A book which describes the volumetric and phase behavior of hydrocarbons was published by Stanford University Press and reprinted by Gulf Publishing Company. A second volume, published by the American Petroleum Institute, presented experimental data concerning the thermodynamic properties of a number of lighter hydrocarbons and their mixtures. A third volume is in the course of preparation; it will describe the volumetric and phase behavior of approximately 20 binary hydrocarbon mixtures.

The activities of Project 37 at the California Institute of Technology have been carried on as a joint effort. The American Petroleum Institute has contributed funds for the support of direct operating and equipment costs. The committee members, particularly the chairmen of the project advisory committees, have given counsel and guidance. The California Institute of Technol-

(Continued on Page 35)

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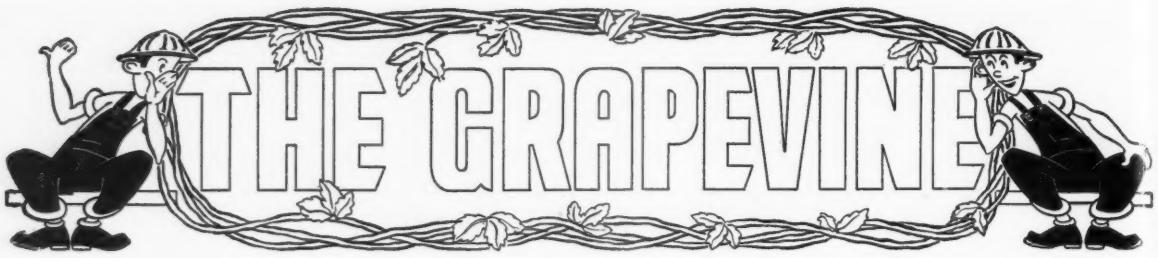


Now that the year end rush has somewhat subsided, we are into the season of elections and appointments and, indeed, some very interesting ones have already taken place. On one and the same evening the Petroleum Club of Los Angeles and the Los Angeles Chapter of Nomads held their annual meetings and we had hoped to attend them both, but we were held down too tight at the former to do anything about the latter. The Petroleum Club first elected three new directors, namely Sam Bowlby, the Shell veep, whose recent resurrection of that old classic, "The Rose of No Man's Land," has started a vogue that may yet sweep the country, and goodness knows, the country needs to be swept; Olen Lane, the Continental veep, who once shot the biggest white goose ever bagged with a 12 gauge blunder-buss, and whose three-cushion billiard acumen (Whoops, we made a pun!) has Willie Hoppe frightened half to death; and last but certainly not least, Ronald Swayze, the quiet mannered but fully competent vice president of General Petroleum Corporation, who is widely known and highly respected for his knowledge of production practices, as well as for his administrative ability.

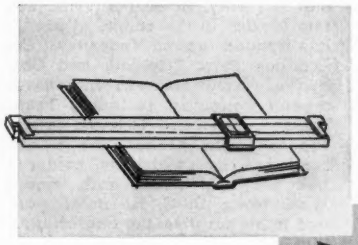
We feel rather proud of the fact that with the aid of cousin, Pick McIver, Shell's manager of crude purchases; Frank Smith, the BJ Service Company higher-up and Fred Vandenberg the Kern Oil Company geologist, we counted the new directors into office in one of the neatest bits of tallying since the death of old Tallyrand himself. Anyway, to continue the narrative, while the directors went into session, we became involved in a domino joust with Glen Ledingham, as our partner, against that pair of sharpies, Tom Sherman and Milt Lewis, and if we do say so ourself as hadn't ought, we employed some of the astutest drawing seen in many a day, to beat them so ignominiously Tom Sherman ran off in search of easier prey — maybe that should be easier pay.

In the meantime, L. L. Aubert, deputizing for Bill Geis who is still traipsing about the universe, opened the meeting and among other things announced the new officers as follows: President, Dave Day; vice president, Wendell Jones; secretary, Jim Leovy; and treasurer, W. A. "Dub" Russell. David E. Day, to him his full moniker, is the only person ever born in Washington, D. C., to become vice president of Richfield Oil Corporation in charge of refining, pipe lines, marine terminals, and right-of-ways. Besides that he is a gentlemanly sort of fellow who never uses nasty words like polymerization or isomerization in mixed company. Oh, perhaps if he is really perturbed he might blurt out the term "cycloversion," but certainly nothing more serious. He is one of the industry's most liked and best dressed men, and he grows the prettiest flowers you ever saw down at Three Arch Bay in South Laguna. With all these accomplishments and attributes, Dave certainly ought to be able to pilot the Petroleum Club through all the shoals that may develop.

Wendell Jones, vice president of Bethlehem Supply Company of California, hails from Maine, where the principal item of manufacture is republicans, but he has lived in the Golden State since he was 18 months old. He is a graduate of the University of California in engineering, has mingled frequently and intimately with European nobility and has a tenor voice that must have been designed with the Petroleum Club in mind. In any case he is an entertaining conversationalist, is a good organizer, and there is no such thing as a dull party when Wendell Jones is present. Jim Leovy, Western Gulf's legal counsel, is a quiet, almost bashful chap with a sort of unruly Will Roger hairdo. He is a meticulist who sticks religiously to the letter of the law but at the same time is a thoroughly likable, human individual, which is quite an unusual combination. So far as we know, the only sadness in Jim's life is a lad, named Paul Broxon, with whom he eternally tangles in a variety of spectulative pastimes, intellectual jousts, and just plain arguments. These expostulatory exercises, however, are entirely superficial, and in reality the two love each other like blood brothers.

Dub Russell, assistant vice president of the Seaboard Oil Company of Delaware, is another gentleman of the modest undemonstrative, but entirely capable type. We have never had occasion to dig very deeply into his past but have long admired him for his unruffleable disposition and his total friendliness. It is a good many years since we first shot pics of a famed Petroleum Accountants Society golf foursome of which Dub was a member. They always played together at the PAC open affairs and their match was usually one of the features of the gatherings. The other three were Roy Hornidge of Union Oil Company who passed away a number of years ago; Ed Leabow, executive of Domiguez Oilfields Company; and Leon Berrett, then chief

at every step of the way



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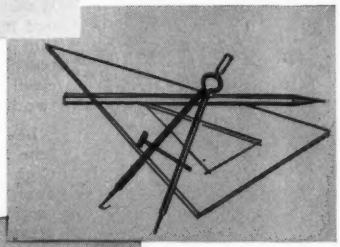

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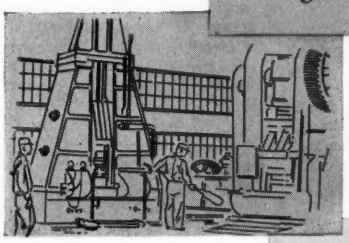

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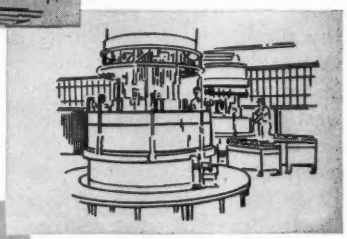

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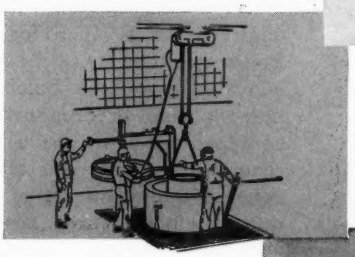

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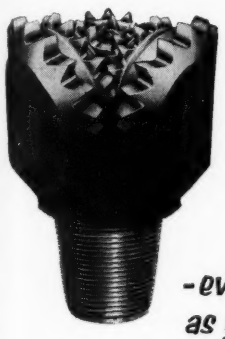

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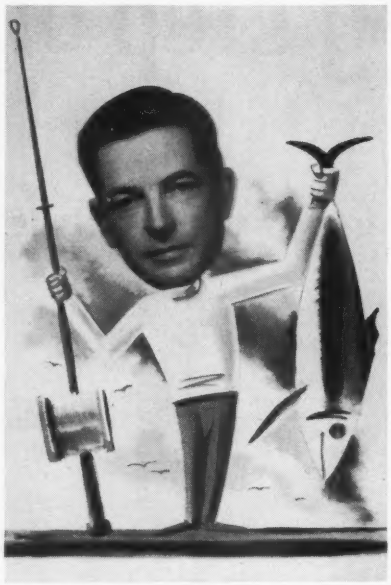
MEET THE NEW NOMAD PREXY

John Flanagan, the handsome young export manager of Johnston Testers, Inc., and current president of Los Angeles Chapter Nomads, was born in Caddo Lake, Louisiana, in the very shadow of the oil derricks, as it were, but being a restless soul in his younger days, he packed his little grip at the age of four and hightailed to Breckenridge, Texas. Thence he migrated over a number of years, via such well known oil villages as Big Muddy and Casper, Wyoming, to South Pasadena, and by the time he arrived there was so thoroughly saturated with the petrolic virus that his case was hopeless.

In 1935 he began to show his good judgment by marrying a lovely girl, Helen Spelts of San Marino, and about that time accepted his first oil assignment from C. B. Kimberlin as a rousty on a well gang for KNDA. He stayed in Avenal until about 1941 and latterly was engaged in certain bottom hole pressure experiments and investigations that really determined his entire subsequent career. John became a member of M. O. Johnston's staff some 12 years ago, as assistant to Bill Bettis, acquired a broad experience in all the ramifications of formation testing and bottom hole phenomena, and when Bill was made vice president in 1952, John took over the top spot as export manager.



John Flanagan is without question one of the most completely likeable people we have ever known. He is a fine looking chap, quiet spoken and undemonstrative, always immaculately groomed, and he has hosted such a scad of visiting oil men from foreign fields that he has as many friends abroad as he has at home, and that is plenty. He has traveled frequently into Mexico in the course of his business; has foraged around Venezuela, Colombia, Ecuador, Peru, Trinidad, and Chile; and has executed missions into several European countries, including France and Holland. He found especial interest in a trip to Punta Arenas, the world's most southern city, which is colder than a beagle pup's nose, and windier than Washington, D. C. He noted particularly and to his surprise, the English atmosphere that pervades the area, even the baa of the sheep—which, by the way, is a principal industry—has a decided Cockney twang.

Besides being top shot in the Nomads, John is a popular member of the Petroleum Club and the junior section of the Petroleum Production Pioneers. He is a Waltonian angler but is also one of our most effective albacore fishermen and in this latter connection has conducted more sea going expeditions than Captain Cook. John's home is in San Marino where he is assisted in keeping the grounds in order by a good looking son, John Jr., while a good looking daughter, Kathleen, spanks out encouraging concertos on the Steinway.

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accountant for Wilshire Oil Company. These boys were all top golfers and good scouts in addition and we had many a fine time both during the course of their divot lofting exercises and in the festivities that invariably followed.

After the announcement of the new officers and the completion of the business meeting, the members, about 150 strong, tucked in a good buffet dinner and then devoted themselves largely to a certain pastime in which the click of the rocks could scarcely be heard over the moans of the injured and the triumphant shrieks of the victorious. Some groups assembled themselves in compact units of four and hurled dissonant decibels at the welkin until the night was far sped, while others gathered round the green baize and exchanged colored disks reluctantly but often. It was a most enjoyable evening in toto and was another convincing demonstration that Henry Salvatori, Paul Huggins, Rollin Eckis, Jim Leovy, Tom Sherman, Dick Sherman, O. I. Torkelsen, Stan Williams, Frank Morgan, Mort Kline, and all the other Oil Club members who took part, really had a worthwhile idea back yonder in 1948 when they laid the groundwork for what is now one of the best clubs in the west.

While we didn't attend the Nomad meeting, we have since consulted with the powers and are well pleased with what we have learned. We are tickled to note that John Flanagan, the Johnston Testers export chief, is now president and it is a cinch that the chapter will have a smooth functioning organization under his regime. He is in a tough spot, having to follow that old master of rhetoric, James D (for Dublin) Hughes, the Lane-Wells oratorical genius who in our opinion did one of the most outstanding jobs in the history of the local chapter. Jim incidentally, will now function as Junior regent, and it would be hard to find a stronger representative to the national councils . Aiding John in the vice presidential post is another up-and-comer, Joe Schlarb of Chiksan, who has been developing fast as a platform performer in the past year or two, and has a fine presence and deportment in addition. John and Joe will not only make a productive team but they will also have the distinction of being the best looking duo that ever held the local chapter reins.

Chancellor of the exchequer for the next year is Leo Cypher, the Baash-Ross export biggie, who has already well demonstrated his capacity to mount guard over the shekels. With a name like Cypher, numbers ought to be a cinch for Leo. For sergeant-at-arms, the choice is Ox Morgan, the Falcon behemoth who is comfortably equipped either to toss a boisterous intruder into the alley or squeeze a fine out of a delinquent member. These, however, are merely dictionary duties of the office and Ox will be well occupied with the more dignified matter of arrangements, a job which he has performed well for other organizations and on many occasions for the Nomads. In the assistant secretarial post is Earle "Pop" Atkins, the neophytic Emsconian, whose knowledge of swing joints should prove invaluable at the Inaugural Ball in February.

Earl Tavan, the Ken Corporation executive, assumes the assistant treasurer's toga and should have a pretty soft touch counting the mazuma after Leo Cypher who hasn't made a mistake in addition since the War of the Roses. And as for the assistant sergeant-at-arms, Bob

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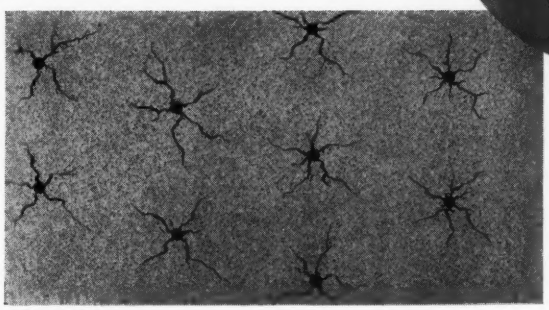
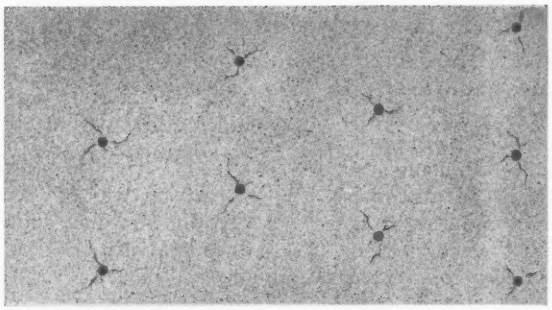
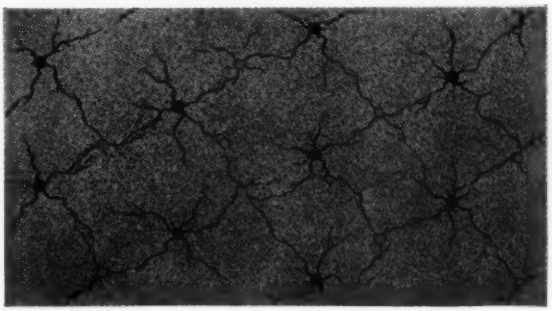
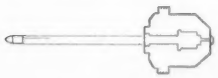






Here's Why:

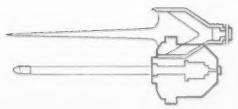


BULLET PERFORATING

gives good "formation cracking," increasing the drainage area for oil to reach the well.

KONESHOT PERFORATING

gives you deepest penetration, but less formation cracking, and has greater tendency to compact the formation around the perforations.



COMBINATION PERFORATING

Here you shoot first with KONESHOT for your deep penetration — then the bullet perforating fractures the formation and re-opens any KONESHOT cracks which may have been shut off.

***RESULT:* Deepest Penetration Plus Maximum Drainage**

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Gaylord, the Wagner-Morehouse engineering genius, who towers high into the stratosphere, will be able to spot the disturbances over the heads of the crowd and point out the epicenters to Ox Morgan, the head bouncer. The senior regent is, of course, Bill Wilson, the wild animal trainer, and what he has done with the Yellow Tiger ought to convince all and sundry that he is not one to trifle with. Altogether, it looks as if the Los Angeles chapter Nomads starts another year with an excellent roster of officers and can confidently expect one more season of unalloyed and undiminished progress.

Darting off at an acute angle now, we spent an enjoyable few minutes the other night with Art Quackenboss, the Union Oil Company crude oil purchasing agent whose dining room table we scarred abominably with poker chips before we learned to handle them properly. Art was in the company of a brace of friendly chaps from The Warren Petroleum Company, to wit, Jim Reidy, a sales executive out of the Tulsa office, and Howard "Monty" Montgomery, engineer in charge of the Company's gas operations at Houston. It turned out to be a right nice party during which we discussed a variety of inconsequential subjects and embellished them very becomingly with appropriate folk tales. The boys were pretty busy, we found, with their respective chores and didn't have too much time to squander on inanities so we were more than pleased to have even a brief bit of chatter with them.

A few days later we bumped into Bill Thornbury, the independent producer and consultant, who is one of the most consistent and gracious hosts and entertainers in the village. Bill had in tow another pair of interesting gentlemen, one from Bologna, Italy, and the other an erstwhile Colombian, who now makes his headquarters in New York but travels unrestrainedly all over the world. The first was Dr. Italo Veneziani, a widely experienced operator and consultant who, among other things, was once in charge of British oil development in Iraq (Bill Thornbury was his assistant manager there for a couple of years); managed Italian Government operations in Rumania, is now representative of National Supply Company in Bologna; does contract drilling; and sings with all the ardor and clarity of an Enrico Caruso. The other is Jaime Botero who travels out of New York for National Supply Company, and has visited more countries than Gulliver. He has roamed about South Africa, Europe, the Middle East, and the South Americas, and is just about to take off on another all-encompassing jaunt below the border. In his spare moments, Jaime is a sort of combination Frank Buck and Izaak Walton, and can never quite decide whether to dangle a trout fly in some burbling mountain stream or take a pot shot at a tiger in the Sumatran jungle. He has an inate love of wild life, we are told and and inclined to believe, for certainly the night we saw him he was well surrounded with wild life, and what's more he was enjoying it too. And just to set the record straight, this was at the Los Angeles Petroleum Club.

Just by way of last minute roundup we had lunch a few days ago with Jack McKay, the dapper Fluorite, and were excited no end to learn that he is the son of C. R. McKay, the Richfield refining executive. Also, we were doing our best parlor magic for the supposed bafflement of a pair of youngsters in the dining room of a downtown hostelry one night a while ago, and to our intense disgust, Glen Ledingham, Jr., who is all of eight years old, became hep to most of the magic secrets that have been jealously guarded by our family for several generations, and in no time at all was performing our best stunts with a mastery that was mighty humiliating we can assure you. And speaking of magic, Carl Zamlock, the Signal Oil & Gas Company Prestidigitator, has a seven of clubs clinging tenaciously to the

. . . another reason why so many oil producers are standardizing on "Oilwell" Pumping Units

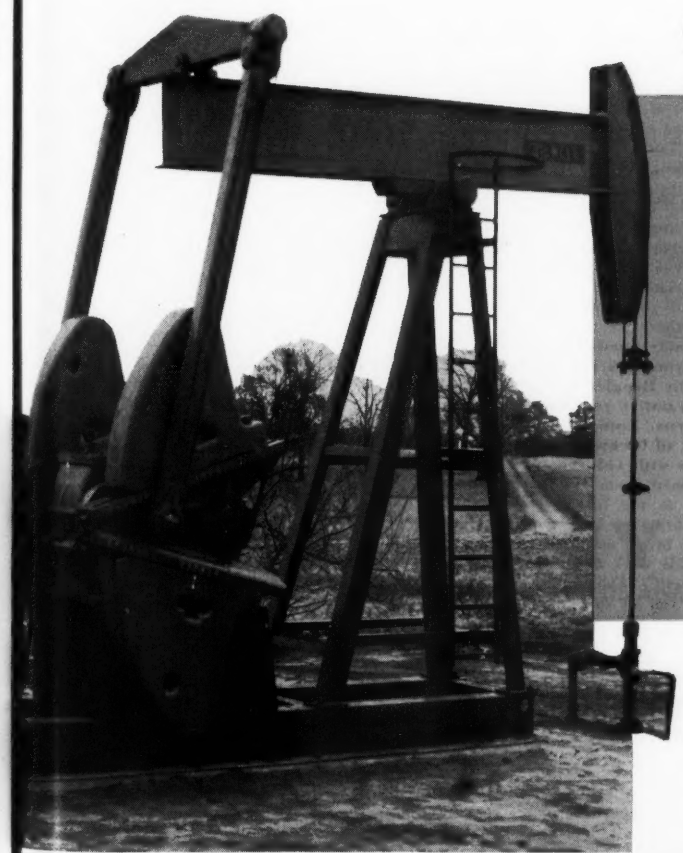
PUMPERS and Lease Superintendents have been quick to see and appreciate the fool-proof safety features which have been embodied in the design of Type "F" Cranks—now available on all "Oilwell" Pumping Units which have walking-beam ratings of 12,000 lbs. or more.

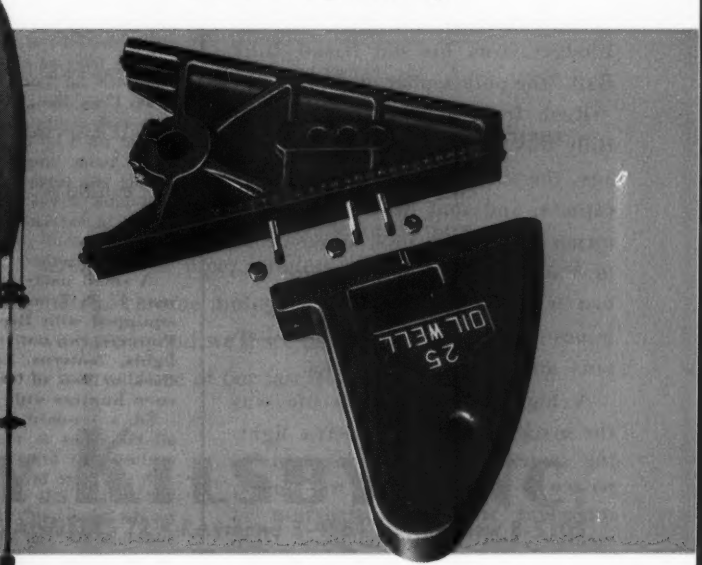
With this type crank, one man at the SIDE of the unit turns a large acme thread bolt with a ratchet wrench, to move the weights along calibrated slide rails to proper positions. There's no way hands can get caught or fingers smashed in making these adjustments.

Locking nuts are then tightened from a SIDE position, which locks the complete counterweight assembly. Should nuts work loose on the locking bolts, it is impossible for weights to move lengthwise and break loose from their cranks.

In addition, these weights are solid castings and are made in a wide range of sizes which can be EXCHANGED when well conditions necessitate greater or smaller counterbalancing effects.

***Note*—how simplicity of design contributes to SAFETY in this counterweight assembly.**





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ceiling of the game room in the Petroleum Club. We have wanted badly to clamber up and see what's holding it, but Carl has threatened us with untold ages of horrible happenings if we ever do, and being a peace loving citizen, we have so far been able to hold our curiosity in check.

Desert Philosophy Thought Provoking

"Regardless of our great President, in my opinion it is the people who must be alerted to the safekeeping of the welfare of the Nation. I believe freedom and liberty lie in the hearts of men and women, and if not there, we are doomed—no constitution, no laws, no courts can save us—our civilization will go by."

These moving words were contained in a letter received during the holiday season by Oil Man Rush Blodget from his old friend Billy Ball, "the philosopher of the desert."

Rush from memory related that Billy was born in Michigan 94 years ago, the son of a heavy-handed sea captain, and that he came to California at 16. Billy took up residence in Vallejo and made a fortune and lost it. He then went to the gold mines in Nevada, Arizona and Montana and then on to Alaska.

A high point in Ball's life was the installation of the electric lighting system for Haile Selasse in his palace in Abyssinia. He was superintendent in the construction of electric and telephone lines from Argentina to Chile. He returned to Tonapah and Goldfield from South America and finally drifted to Los Angeles' resort city at Venice, where he ran launches out to sea and over to Catalina with tourists. He then went back to his beloved desert where for 30 years he has ranged from Coso to Bishop. Known from desert rat to baker, Blodget declares Ball's sound philosophy has smoothed the pathway for hundreds of wayfarers. Bill lives in Bishop.

The Lufkin Line

By VIC FAWCETT

COON HUNTING IN EAST TEXAS

It was a little after high noon in Lufkin on Sunday, January 3rd, when our train, the "Cleveland" pulled into the depot—a red brick one. New Year's Day, just 42 hours before, Al McConville, Bob Spaulding and I had boarded the Sunset Ltd. in L. A.

Vice President Ed Trout was there to meet our "Piney Woods Special" and it was good to be back for another visit to the land of Southern Hospitality—and the home of Lufkin Pumping Units, Gear Reducers and Gas Engines.

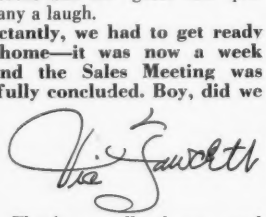
Lufkin peddlers seemed to be arriving from all corners of the globe—Canada, Casper, California, Corpus Christi, Kilgore, Tulsa, Dallas, Houston, New York and even South America. We gather here about this time each year to attend and participate in the Company's Annual Sales Conference—a very enlightening, stimulating and educational experience.

Not the least of this education was a hunting trip—an extra curricular activity which Ed Trout arranged—an *East Texas Coon Hunt.* This is one of those nocturnal sports where you don't get started till 9 or 10 p.m. and you come home hours later after tracking and treeing one or more coons—it may be days later if you lose your compass—or fail to navigate. Deep in the heart of these woods one pine tree looks much like another.

A small party headed by Woodsman E. P. Trout entered the forest equipped with Beagles (dogs) and Pointers, two native yardmen, flashlights, lanterns, compasses and a flask or two of neutral spirits for coon hunters with cold feet.

Ed, a seasoned Coon Hunter, threw all the coons in the forest into utter confusion by bringing his "*goose call*"—in our haste to get on with the hunt, Ed mistook this duck hunter's gadget for the "*coon call*". This, however, only added to the fun of the occasion, we caught coons and the "goose call" provided many a laugh.

Reluctantly, we had to get ready to go home—it was now a week later and the Sales Meeting was successfully concluded. Boy, did we work!



P. S. Thanks to all of our good friends and customers for making 1953 another great year. And if you are ever in the vicinity of Lufkin it would be a pleasure for us to take you on a "Coon Hunt".

Multi-Million Dollar Oil Unit To Be Built By Tide Water Associated At Avon Refinery

Tide Water Associated Oil Company plans to build a new multi-million dollar oil processing unit at its Avon, California, refinery to increase its capacity to produce premium grade motor fuels, it was announced by H. Y. Hyde, Vice President of Manufacturing, Western Division.

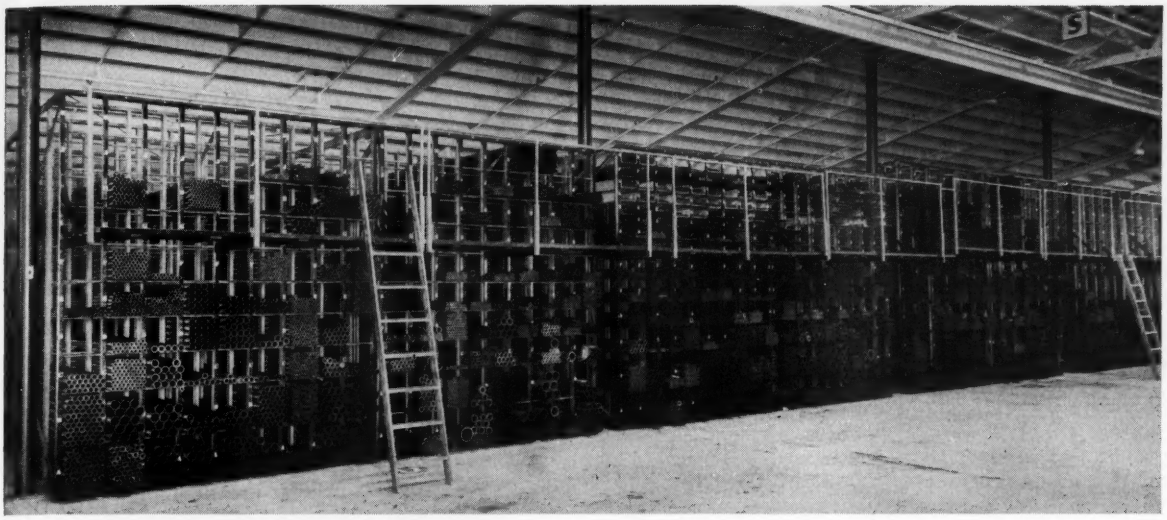
Site-clearing for building the new hydrobon platforming plant and auxiliary equipment will begin soon, with construction completion scheduled for the end of the year, Hyde added. It will have a capacity of 10,000 barrels a day of high octane gasoline components.

"This combination unit is designed to increase the production of top quality aviation fuel by hundreds of thousands of barrels per year while simultaneously making available other high octane components from which premium grade motor gasoline with octane ratings of the future can be manufactured to meet the demands of modern high compression engines," Hyde explained.

A by-product of the process will be hydrogen sulphide gas in substantial quantities. This will be retained and used as an additional source of supply in making sulphuric acid at the adjoining plant owned jointly with Monsanto Chemical Company.

The new plant—a "hydrobon platformer"—is basically a two unit operation. The first catalytic process removes over 90% of the natural sulphur and other impurities in the naphthas which are treated in it. The second, using a platinum catalyst to speed the process, rearranges the molecular structure of the liquid passing through it under controlled pressure and heat conditions. The result is a high octane product which is blended with other materials to make aviation and premium grade gasoline.

C. F. Braun and Co. of Alhambra California, has been awarded the construction contract under license arrangements with the Universal Oil Products Company of Des Plaines, Illinois.



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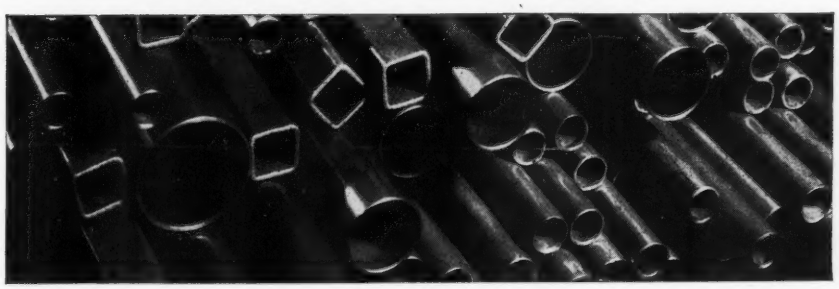


Personalities IN THE NEWS

Loy Succeeds Taves At Schlumberger

Pierre Schlumberger, President of Schlumberger Well Surveying Corporation, has announced two important changes in personnel in the Pacific Coast Area. Fritz G. Taves, who has been Pacific Coast Area Manager for a number of years, has been assigned to the staff of the President. Milton E. Loy has been named to succeed Mr. Taves.

Fritz G. Taves

Mr. Taves will keep his offices in Los Angeles and will handle special assignments. He joined the Schlumberger organization in April, 1935. A native Californian, he received his degree in Petroleum Engineering from the University of California at Berkeley in 1922. He began his oil career with Miley-Keck in the Basin fields. He was employed by Richfield Oil Corporation from 1929 until 1931 and then spent five and a half years with Bill Pemberton in the California Oil Umpire's office before he was employed by Schlumberger. From 1942 until 1946, during World War II,

Milton E. Loy

Mr. Taves served as executive officer for the Elk Hills Naval Petroleum Reserve. He finished his Navy career with the rank of Captain.

Mr. Loy joined Schlumberger 14 years ago, two years after he was graduated from the University of California with a Bachelor of Science degree in Mechanical Engineering. His first assignment was as Field Engineer in the Bakersfield district. He was made district manager at Sacramento in 1943 and two years later he was transferred to a larger district at Bakersfield. In April, 1948, he was moved to the Los Angeles office and made assistant to Mr. Taves. Mr. Loy is well known in both oil circles and at the universities on the West Coast. He has served on many committees in the various technical societies of the industry, and has given numerous talks before both these groups and before graduate engineering students at the universities. He was born in Hayward, California, and now makes his home in San Marino. He took over his new duties on January 1, 1954.

Truran Promoted To Operating Superintendent By Tide Water Associated Oil

George H. Truran, Jr., of Bakersfield, California, has been promoted to Superintendent of the Operating Department of Tide Water Associated Oil's San Joaquin Valley area district, it was announced by Thos. L. Wark, western production Vice President.

He will replace Thomas E. Weaver of Oildale, California, who has been transferred to the Company's Los Angeles area with headquarters at Los Nietos, California, replacing Frank C. Foster, who has retired.

Truran will report to George O. Suman, General Superintendent of the Company's San Joaquin Valley —Los Angeles Basin district of the Production Department. His headquarters will be at Oil Center, California.

The new Operating Superintendent started with Tide Water Associated in March, 1946 as a production engineer in the Company's San Joaquin Valley district with headquarters at Oil Center and was made Production Foreman in March, 1949. Truran was graduated from Purdue University, Lafayette, Indiana, in 1940 with a B.S. degree in mechanical engineering. He served four and a half years in the Army during World War II before joining the Company.

Consulting offices have been opened by W. K. (Bill) Barker, widely known geologist, at 165 North San Vicente boulevard in Beverly Hills. Formerly with Union Pacific Railroad Company, Bill earlier worked with Amerada Petroleum Corporation. He was graduated from the University of Southern California.

Oil helps him serve your table . . .

The food in the sea is worth millions and it's there for the taking. But to take it you have to be tough, bold, skilled. You have to work with a slippery, fish-filled deck under you and a pitching sea under that. You have to know the way of the water and the way of your catch.

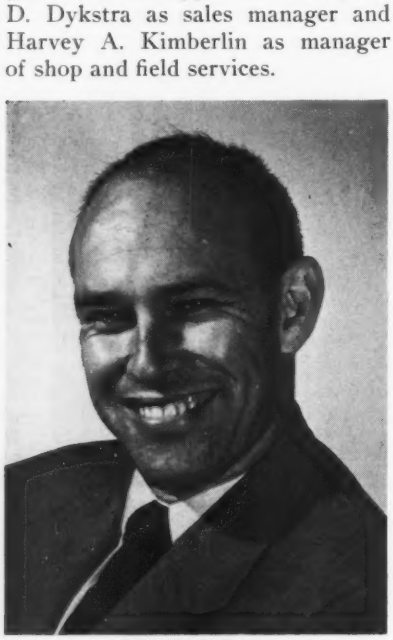
For centuries, the fisherman's power was in the wind. Today, it's in his mighty, oil-lubricated Diesel or gasoline engine. Result: his job is safer, his payload bigger. America's annual seafood haul now stands at well over four billion pounds. The Texas Company has long been an important contributor of petroleum products to America's fishing industry.

The Texas Company

TEXACO

Promotions Announced At Power Rig

Floyd York, manager of Power Rig and Equipment Company, Inc., announces the appointment of John D. Dykstra as sales manager and Harvey A. Kimberlin as manager of shop and field services.



John D. Dykstra

John Dykstra has been with Power Rig and Equipment Company, Inc., since the company was formed in the sales and engineering department. He received his technical training in mechanical engineering at California Institute of Technology and has been identified with the design and development of oil field equipment since 1939.

Harvey Kimberlin joined Power Rig and Equipment Company, Inc., in 1947 and has had many years experience in oil field equipment servicing and operation. He was schooled at the Wilson Manufacturing Company factory in Wichita Falls, Texas, and is well qualified to supervise the shop and field servicing of Wilson and other oil well equipment.

Harvey Kimberlin

Carver Named Land Mgr. At General Petroleum

Paul Carver has been named Manager of Land Department of General Petroleum Corporation, according to announcement by P. S. Magruder, executive vice president of the company.

Carver succeeds B. A. Otis, who has retired after 28 years with General Petroleum.

Parke W. Jackson succeeds Carver in the post of Assistant Manager of the Land Department.

Carver joined General Petroleum in 1938 at the company's Torrance (Calif.) refinery. He became a lease representative in 1945 and was in charge of the company's land activities in the San Joaquin Valley from 1948 to 1952. He has served as Assistant Manager since April, 1953.

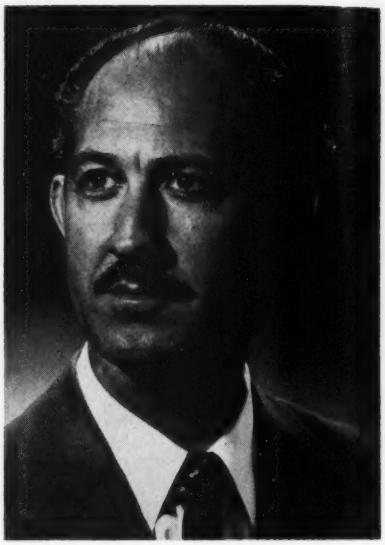
Jackson has been with General Petroleum since 1919. He spent 20 years in engineering work, joining the Land Department in 1948. He served as division leaseman in the Los Angeles area and headed General Petroleum's land activities in Colorado in 1951 and 1952.

John Herrick, widely known author and friend of many members of the Ohio Oil Company family, is gathering material for a new book he is writing on petroleum. He is author of "Empire Oil," the story of oil in the state of New York. Herrick, who recently visited Ohio Oil's deep well in the Paloma field, was one of the organizers and first president of the New York State Oil Producers' Association.

Frank Vessels, one of the first to open an oil field supply store at Signal Hill, has been named vice president of the California Quarter Horse Racing Association.

K. J. Downs Appointed Chief Design Engineer Of Chiksan Company

Kenneth J. Downs has been appointed Chief Design Engineer of Chiksan Company, manufacturers of ball-bearing swivel joints, it has been announced by Gus M. Bagnard, Chief Engineer.



Kenneth J. Downs

In his new capacity, Mr. Downs will supervise the Design and Development section of the Engineering Department and will direct the operation of the Test Laboratory.

He has been with Chiksan Company 4 years as a design engineer and has worked on the tooling and design of swivel joints and on special design projects.

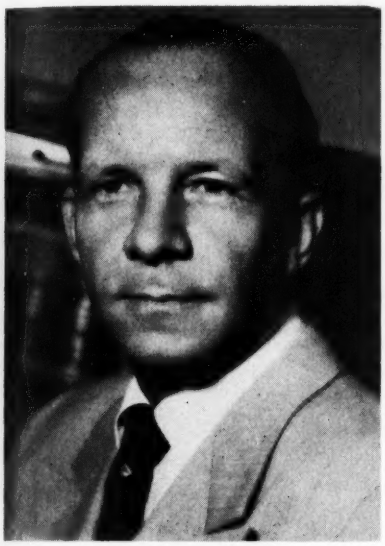
For the past 21 years Mr. Downs has been engaged in engineering work both here and aboard, particularly in the automotive industry. For a number of years he was an engineer with Morris Motors in Coventry, England.

Mr. Downs received his mechanical engineering degree from Keighley Technical College, Yorkshire, England. Following his graduation he was on the engineering teaching staff of the college. He is an Associate Member of the Institute of Mechanical Engineers.

Herbert Vosler, Los Angeles oil man, is among the newer members of the Los Feliz Kiwanis Club.

Brooks Advances At Texas Co.

Charles M. Brooks has been named Director of Industrial Relations for The Texas Company, it was announced by James H. Pipkin, Vice President in charge of Industrial and Public Relations.



Charles M. Brooks

Mr. Brooks joined The Texas Company in October, 1948, as staff attorney in charge of labor law. Since then, he has been closely identified with the Company's industrial relations affairs and is well-known as an authority on employer-employe relations.

He has had wide experience in labor relations and labor law both in government and in industry. Prior to joining Texaco, he served as Associate General Counsel of the National Labor Relations Board, supervising all of the Board's regional offices, as well as being in charge of investigations and prosecutions under the Taft-Hartley Act. He also served as a trial attorney in Los Angeles, San Francisco, Seattle, and Fort Worth, and later as a supervisor of trial work in the N.L.R.B. Washington office.

Mr. Brooks is a native Texan, attended North Texas State College, graduated from Rollins College, Winter Park, Florida, and from the National University Law School in Washington. He is a member of the Bars of the District of Columbia, the State of New York and U. S. Supreme Court.

During World War II, Mr. Brooks served with the Army Air Force in both the European and Asiatic Theatres and was separated with the rank of lieutenant colonel.

He was born at Denton, Texas, and married the former Harriett Emerson of Powell and Corsicana, Texas. He and Mrs. Brooks reside at 55 East End Avenue, New York City.

Ramsco Corp. Organized

R. A. Newton, former partner and General Manager of Rasmussen Mfg. Co. for 10 years, L. A. Theisen, formerly Vice President and Sales Manager of Falcon Products for 8 years, and W. G. Wellington formerly Vice President and Chief Engineer of Falcon Products for 8 years, have recently purchased the plant and equipment of the Rasmussen Mfg. Co., located at 12305 Industrial Ave., Hollydale, Calif.

The plant will operate under the name of Ramsco Corporation, and will continue to manufacture the same products, namely, Engine Liners and Sleeves, Enterprise Engine Parts, Oilfield Specialties, and General Machine Work. Ramsco will also add Heat Treating and Plating departments to their present facilities.

Ramsco has been appointed an Authorized Distributor for Roebling Wire Rope, Slings and Fittings.

From left to Right: L. A. Theisen, W. G. Wellington and R. A. Newton.

Republic Supply Receives Architectural Honor

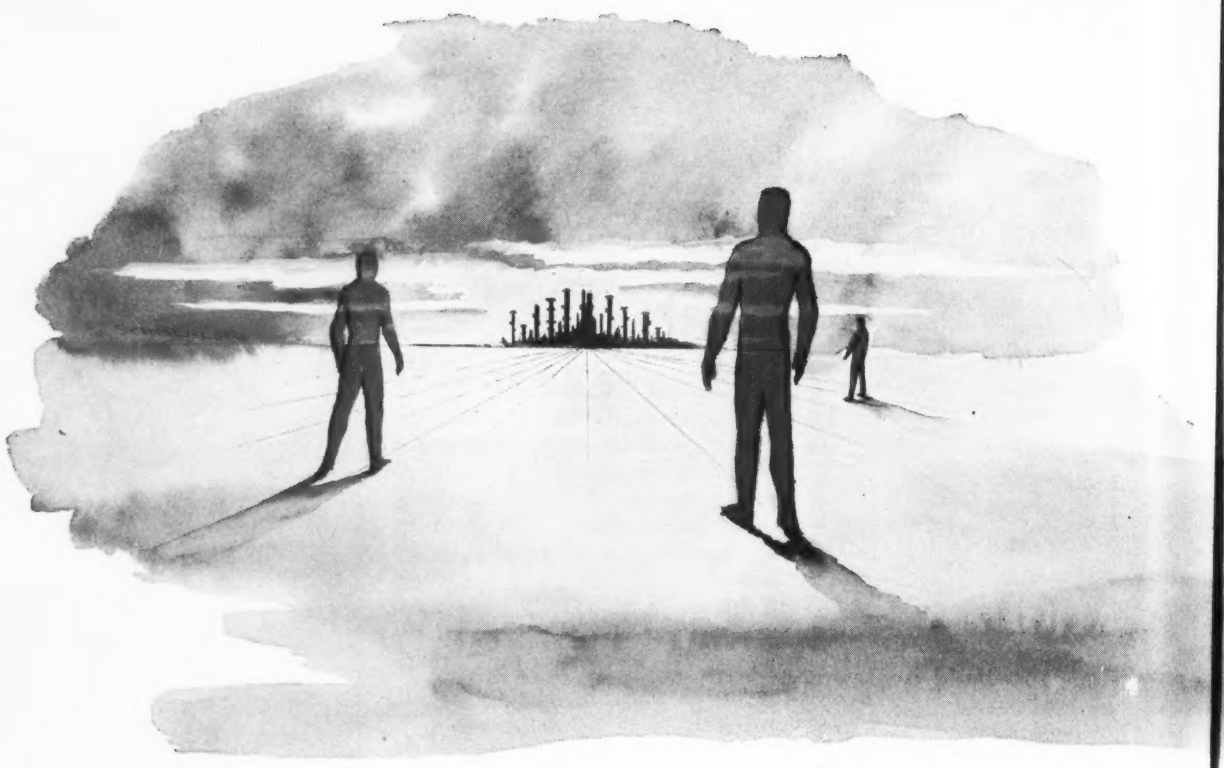
The Republic Supply Company of California and Architect George Vernon Russell of Los Angeles were jointly honored recently by The American Institute of Architects "for distinction in design of the company's North-Division Offices and Plant at San Leandro, California." At the Annual Banquet of the Institute's' Southern California Chapter, John J. Pike, President of Republic Supply Company, and Architect George Vernon Russell who designed the plant, were each presented with a certificate denoting "Merit Award conferred by the Institute."

Architect George Vernon Russell, AIA, (left) and John J. Pike, President of The Republic Supply Company of California (center) are congratulated by Henry L. Wright.

The presentation was made by Henry L. Wright, President of the Southern California Chapter of the AIA. The Institute's National President, Clair Dichty, of Detroit, was present as honored guest.

The architectural project which won this coveted honor was submitted by Russell in anonymous competition with over 200 other architects from all over the country. It has since been shown as part of the U. S. Government Exhibit at the Berlin Trade Fair held last fall in Germany. It is also continuing to attract the attention of architectural magazine editors both in America and Europe.

Russell designed The Republic Supply Company Main Headquarters in Central Manufacturing District, Los Angeles, as well as the San Leandro Project.



your stake in our future . . .

Even though no individual refiner, nor the refining industry collectively, has any financial interest in our company the continued success of Universal is of prime importance to those in the business of economically making better products from petroleum.

It is entirely possible that many persons in close contact with the petroleum refining industry, have never realized the full significance of the contributions made by

this company. Having been available to all refiners, these developments have helped many companies, not only to meet competition, but to achieve financial success.

For almost forty years Universal's constant search for new and improved methods of refining petroleum has provided substantial dividends for those refiners, whose confidence and close cooperation have enabled us to bring notable advancements to the field of petroleum refining.

Much of the credit for our success should rightfully go to the refiners whom we have served for many years. Likewise, a great deal of the progress they have made is the result of our continuing effort to serve them in the most effective manner.

When we say . . . . Your Stake In Our Future is a big one, we honestly feel that we could not make a more truthful statement.

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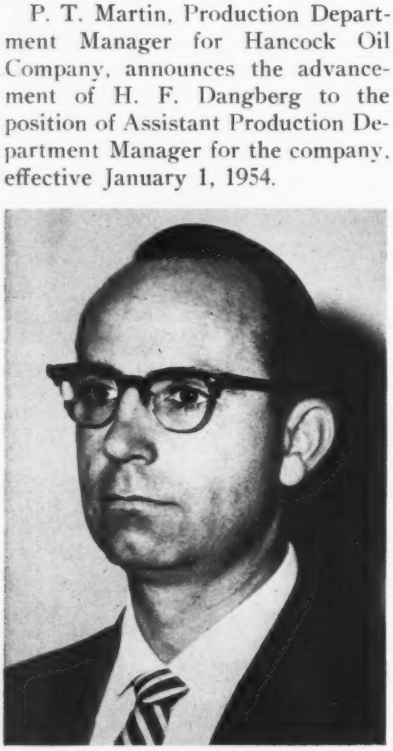
Universal Service Protects Your Investment

Dangberg Advances At Hancock

P. T. Martin, Production Department Manager for Hancock Oil Company, announces the advancement of H. F. Dangberg to the position of Assistant Production Department Manager for the company, effective January 1, 1954.



H. F. Dangberg

Starting as Senior Petroleum Engineer for the company in 1945, Dangberg has worked in various positions of the production department.

Hyde Promoted By Tide Water Associated Oil Company

Herschel Y. Hyde, Vice President in Charge of Manufacturing, Western Division, Tide Water Associated Oil Company, has been assigned the responsibility of planning and developing programs of the refining activities of all Divisions of the Company, according to announcement released by President D. T. Staples.

"In such capacity, Mr. Hyde will devote major time and effort to planning, control and coordination of the Company's manufacturing activities, including research," Staples stated.

Hyde, a graduate of the University of California and Massachusetts Institute of Technology, has been in the service of Tide Water Associated for 26 years, commencing as a Research Chemist in the Company's refinery at Avon, California. He served in various positions in the Research and Development Department and became Supervisor of that Department in 1929. Since 1946 Hyde has served as Vice President in Charge of Manufacturing, Western Division.

Hyde will continue to make his headquarters in San Francisco.

Ox Morgan New Falcon Sales Manager

Falcon Products, Pomona, California, manufacturers of Oil Well Slush Pump parts, announced the appointment of O. W. "Ox" Morgan as General Sales Manager effective January 1, 1954.

Ox Morgan, one of the leading figures in the oil equipment business, comes to Falcon with a long and successful career in sales and field service.

After majoring in engineering at Stanford University, Ox joined Byron Jackson Company with whom he served sixteen years as oil field representative in California and the Mid-Continent. During these years at Byron Jackson, he advanced to the position of Export and General Sales Manager of the Oil Tool Division. Prior to his new position with Falcon, he spent several years as Sales Manager for the Oil Well Manufacturing Company. At Falcon, Ox will direct all sales activities and guide the development of all new products.

O. W. Morgan

Officers for 1954 were elected at the Annual Business Meeting of the Los Angeles Chapter of Nomads on January 13th. Shown in the photo are the incoming and outgoing officers. Left to right, seated: Harry Hester of McCullough Tool Company, Secretary for 1954; Joe Schlarb of Chiksan Company, Vice President for 1954 (Sergeant-at-Arms 1953); John Flanagan of Johnston Testers, Inc., President for 1954 (Vice President 1953); Ox Morgan of Falcon Products, Inc., Sergeant-at-Arms for 1954 (Deputy Sergeant-at-Arms 1953); Leo Cypher of Baash-Boss Tool Company, Treasurer for 1954 (Assistant Treasurer 1953). Standing: Vern Mitchell, Security Engineering Div., Assistant Secretary for 1953; Earl Atkins of Emsco Mfg. Company, Assistant Secretary for 1954; Jim Hughes of Lane-Wells Company, 1953 President and Regent for 1954; Bob Gaylord of Wagner-Morehouse, Inc., Deputy Sergeant-at-Arms for 1954. Not shown Bill Sargent of Sargent Engineering Company, Secretary for 1953; Bob Craig of National Supply Co., Treasurer for 1953 (in the Middle East); Jerry Engstrand, Regent for 1953; Bill Wilson of Web Wilson Oil Tools, Inc., Regent for 1954; Earl Tavan of Ken Corporation, Assistant Treasurer for 1954 (in Venezuela).

Advertising Man Completes Petroleum Course

Lionel Ormsby, Account Executive with Dozier Eastman and Company, industrial advertising agency, Los Angeles, has completed an engineering course in petroleum refining given through the facilities of the University of California Extension Division. The scope of the course covered equipment and processes used in the refinery to convert crude oil into finished products. Included were studies of petroleum chemistry, types of crude oils, distillation, cracking and the conversion processes — polymerization, alkylation and reforming; treating and blending of gasoline, plus the basic instrumentation used to measure the composition of hydrocarbons. The instructor, Paul Morgal, is a Process Engineer with Union Oil Company at Los Angeles.

Lionel Ormsby

Now in its 30th year, Dozier Eastman and Company has been serving firms in Southern California who manufacture equipment for all phases of the petroleum industry, for exploration, drilling, producing transporting and refining of petroleum and natural gas. Ormsby has been with the agency eight years.

Three General Petroleum executives have a total of 110 years in the oil industry.

C. M. Wagner, Director of Exploration, and Paul Sanders, Assistant Manager of General Petroleum's Torrance (Calif.) refinery, have both been with the company 35 years. A. "Mutt" McLean, Coastal Division Superintendent for the Production department, marked his 40th anniversary on January 16th.

Wagner, who was employed in 1919 as a Geologist, has held his present post since 1948. A past president of the American Association of Petroleum Geologists, Pacific Section, he is also a member of the American Petroleum Institute, and two honorary scientific societies, Sigma Xi and Theta Tau. He makes his headquarters in the Los Angeles Building.

Sanders has been in refinery operations since 1919. In 1929 he and 33 men put General Petroleum's then tiny refinery "on steam" for the first time. The Torrance installation has since grown into one of the largest petroleum refineries in the West.

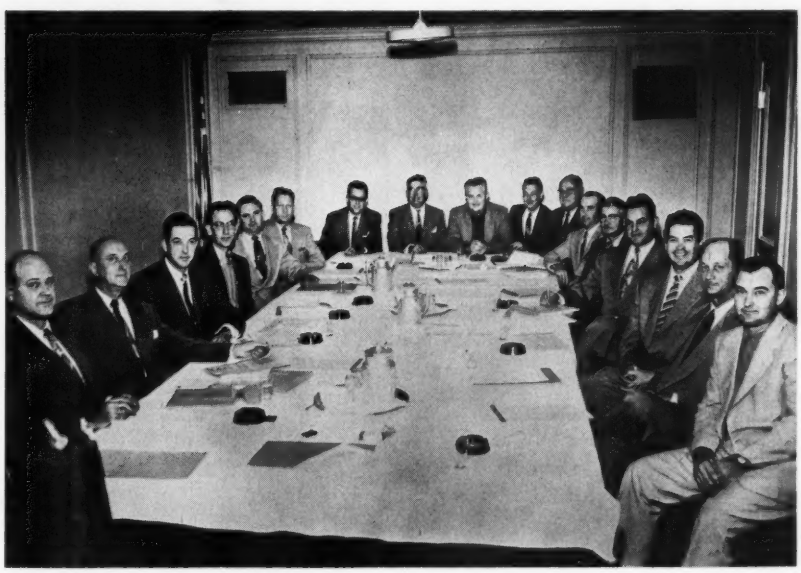
McLean has been in production work during his entire 40 years service, and headquartered at Ventura since 1935. He has been Coastal Division Superintendent since 1938.

Johnston Execs Hit Road For Series of Sales Meetings

Tired, but definitely pleased, top executives of Johnston Testers recently returned to Houston after a series of sales meetings with the company's field organizations. In all, the group traveled over 4,500 miles. The meetings were conducted by T. M. Johnston, Executive Vice President and J. E. Smith, Vice President in charge of Sales.

Purpose of the meetings was to provide the Johnston field organization an opportunity to hear firsthand, reports on progress being made in developing even greater efficiency in drill stem testing which the company originated some 26 years ago. According to T. M. Johnston, better known in drilling circles as Tom, the meetings were extremely successful.

Meetings were held in Houston, Midland, Wichita, Casper and Los Angeles. M. O. Johnston, Board Chairman, and W. F. Bettis, Vice President of West Coast Operations, joined the group in the Los Angeles meeting.



Last of series of sales meetings for Johnston Testers was held at the Biltmore Hotel, Los Angeles. T. M. Johnston, Exec. V. P., and J. E. Smith, V. P. in charge of Sales conducted the meetings which were held in Houston, Midland, Wichita, Casper and Los Angeles.

Attending the Los Angeles meeting, reading from left to right, were Dave Crockett, Charles White, John Flanagan, Dick Stanier, Cecil Weaver, Homer Hollingsworth, J. E. Smith, Vice President in Charge of Sales, M. O. Johnston, Chairman of the Board and President, T. M. Johnston, Executive Vice President, W. F. Bettis, Vice President in Charge of West Coast Operations, Bud Johnston, Parker Glass, E. T. Scott, Meryle Sutliff, Warren Johnston, Harold Masters and Richard Henderson.

Rathbun Advances At Continental Oil

Keith Rathbun, Houston, Tex., has been promoted regional geologist for Continental Oil Company's western region, with headquarters at Los Angeles, it was announced by Olen Lane, vice president and western region general manager. He formerly was assistant manager of the company's geological section at Houston.

Keith Rathbun

Conoco's western region exploration department comprises the states of California, Oregon, Washington and Nevada. The company has approximately 200,000 acres under lease in the region including about 124,000 acres in California. The firm has 267 net producing wells in California, the bulk of which are located in the San Miguelito field near Ventura and the Seal Beach field south of Long Beach. The company also operates a natural gasoline plant at Ventura and currently is drilling exploratory wells in Ventura and Kings Counties.

Mr. Rathbun joined Conoco in 1936 as a geologist at Ponca City, Okla. He transferred to Centralia, Ill., in 1939 and spent three years as a geologist in Illinois and six years as district geologist at San Antonio, Tex., before his promotion in 1950 to division geologist at Houston. He was named assistant manager of Conoco's geological section in early 1953.

A native of Fremont, Neb., Mr. Rathbun received his bachelor's degree in geology in 1934 from the University of Nebraska.

William R. Boatman Retires

Mr. T. H. Wallace, Vice President of Western Gulf Oil Company, recently announced the retirement of Mr. William R. Boatman.

Mr. Boatman joined Western Gulf Oil Company in February, 1943, as a Chief Field Clerk in the Oak Canyon Oil Field in Los Angeles County. He subsequently was transferred to the Paloma Field and finally to the Fruitvale Oil Field, near Bakersfield, California. In January, 1948, he was promoted to Chief Warehouseman, which position he held until retirement.

At the time of his retirement, his fellow workers presented him with a gold wrist watch. A luncheon was held in his honor at the Bakersfield Inn, at which time he received a Certificate of Award for ten years and ten months of continuous service with the Gulf Companies.

Has the Los Angeles Chamber of Commerce heard about this? Genial T. H. Beament, General Exploration Company vice president, spent his recent vacation in Florida.

R. H. (Bob) Torrey, American Petroleum Institute, San Joaquin Valley chapter, secretary-treasurer, reminds all members that 1954 dues are now payable. Bob has been gas supply representative for the Southern California Gas Company for the last 16 years. He resides in Taft, where he attended school.

Fred H. Hammer, veteran land lease man, is associated with Keans, Springmann and Stipek's current leasing campaign in the Long Beach townlot area. Keans, Springmann and Stipek, whose headquarters are in the General Petroleum Corporation building in Los Angeles, has opened Long Beach branch offices in the Times Building, 215 American avenue.

PACIFIC PETROLEUM CHAPTER OF A.I.M.E. PLANS ACTIVE YEAR

Plans for an active year were initiated by the Pacific Petroleum Chapter of the American Institute of Mining and Metallurgical engineers at a meeting in the Engineers Club of the Biltmore Hotel on January 5. At that time M. E. Loy, Schlumberger Well Surveying Corp., assumed the duties as chapter chairman, taking over from F. Lowry Wadsworth of General Petroleum Corp. Present at the meeting, left to right, were: (sitting) Kemp Barley, Baroid Sales Div., recently elected councilor; Loy and Wadsworth; J. S. Bell, Humble Oil & Refining Co., councilor. Standing are: R. S. Crog, California Research Corp., 1953 chairman of petroleum technology committee; Phil C. Cook, Union Oil Co., chairman of membership directory committee; C. R. Dodson, of Stanley, Stolz, and Dodson, outgoing vice-chairman; Hal Stanier, Sunray Oil Corp., newly elected councilor; Nick Van Wingen, consultant, 1953 senior past-chairman; J. A. Klotz, California Research Corp., secretary; and J. S. Baker, treasurer and newly elected councilor.

Field Development

Mountain View Deep Test Likely

General Petroleum Corporation is giving thought to launching a 10,000-foot test to the Vedder sand on a 160-acre farmout in the Wible sector in the West Mountain View field in Kern County. The farmed out land was granted by M J M & M Oil Company of San Francisco, which holds the acreage with other companies. M J M & M made known that Union Oil, Pacific Western and Universal Consolidated also were interested in the budding play.

Apropos of Universal Consolidated, this company is ready to try for its first initial production bite of the Crown pool at Edison through the medium of Olver No. 1 on Section 8-30s-9e. Casey & Montgomery Drilling Company will take the well down on contract to a depth approximating 6200 feet. Location is west of Richard Rheem's Kirschenmann No. 54-8, which was abandoned more than a half-year ago at about 5945 feet. Standard appears to have come up with a nice producer on the section by completing Jeppi-Camp No. 58-8 at a bottom of 6025 feet. This is the company's second producer on the Jeppi-Camp lease, which was opened more than a year ago by Crown Drilling Company. Sometime afterwards, Crown sold its operating interests to Standard. Before Crown leased the property from Frank Jeppi and W. B. Camp, the ground was held by Cecil B. De Mille, leading motion picture producer.

Oceanic Oil Company currently has two test wells drilling below 3100 feet in Kern County. They are CCMO No. D-1-7 on Section 7, one and one-half miles southwest of Fellows, and CCMO No. G-2-8 on the next section to the east, 8-32s-23e. This drill site is several hundred feet north of the company's discovery well.

Not far off Santos Creek, Norris Oil Company's CCMO No. 86-X wildcat on Section 32-28s-20e has been abandoned at a redrilled depth of 3653 feet in gray Point of Rocks sand. On formation test of the interval of 3630-3653 feet, the well showed some oil, but not enough to assure commercial yield. The venture the first time down reached 4032 feet.

Salt Creek Test

Seeking a new fault block discovery at Salt Creek, Ferguson & Bosworth are drilling below 800 feet with their US-Westpet No. 1 on Section 30-29s-21e. The test should be satisfied one way or another by 3500 feet. In the Temblor area, the same interests have abandoned Anderson No. 1-31 wildcat on Section 31-29s-21e at a bottom of 1786 feet in gray sand.

Drilling on down in the relatively shallower strata is Union Oil Company's Reserve-Tejon No. 57-26 wildcat well on Section 26-11n-19w at Tejon Flats. The derrick stands about one mile north of the Tejon field and one and one-half miles southwest of Union's Tejon Flats discovery. Union shares interest in the test with Reserve and the Tejon Ranch Company.

On the Rancho La Liebre, Cliff E. Zillgitt's No. 22-2 wildcat on Section 22-9n-17w continues to drill

Bankline Oil Co.'s Plank Community No. 28-29 at Greenacres with Atlantic Oil Co. handling the work. Left to right: kneeling, Bob Reed, rotary helper; Archie Branch, cathead; rear: E. D. Laxson, derrick; Ernie Johnson, pusher; Earl Davis, driller; Karl Mozley, rotary helper.

ahead below 700 feet. In the Shafter area, northwest of the Rio Bravo field, Tide Water Associated's interesting wildcat effort at last reports was drilling near the 10,000-foot level. Known as Tide Water-Capital Company No. 54-18 and located on Section 18-28s-25e, the project is likely to go to 13,000 feet or so. The Arthur C. Fisher, Buena No. 1 test on Section 10-29s-22e nearabout South Belridge is temporarily idle at 3459 feet.

Old River Active

A brace of new wells have started in the Old River area, opened the other month by Superior Oil Company, whose followup, KCL No. 31-36 is on Section 36-30s-26e and two locations west of the find. The Texas Company's Coulter No. 1 is a northeast offset to the discovery on Section 25-30s-26e. Superior's pool inauguration was completed in the Stevens sand for something more than 100 barrels of 36 gravity oil a day by way of a 9/64-inch choke. Most of the strategically located land in the new field seems to be held by Superior and Texaco.

W. C. Chapman's Chapman No. 1 wildcat venture on Section 27-25s-18e west of the Devils Den field is evidently idle at 875 feet for a time at least. Reports some weeks ago credited the test with showing oil and gas in fractured shale. Contractor Green & Heiser is busy with the drill below 7000 feet in E.A. Bender's KCL No. 67-24 test on Section 24-30s-25e in the Ten Section area.

Intex Oil Company is engaged in pulling liner and other mechanical work with its Gill No. 2 wildcat well on Section 24-26s-27e, north of the Mount Poso field proper. The work is a possible prelude to efforts to locate water entry around bottom at 2168 feet and eventual recompletion. In the Kern River, Malcolm MacSween & Associates is moving toward completion attempts with Sheila No. 1 wildcat on Section 13-28s-27e. Douglas Drilling Company is guiding the well to destiny. It is bottomed at 1207 feet.

The Buena Vista area has been singled out for a new wildcat test by J. D. Manley, III, as operator for the Manco Corporation of Dallas, Tex. Operations have begun on Section 19-31s-23e. Gene Reid Drilling Company is in charge Tom Fitzgerald is engineer.

Richfield appears to be mapping the limits of Eocene production in the Wheeler Ridge field. This conclusion was drawn from the company's abandonment of KCL-D No. 28-28 on Section 28-11n-20w at a total depth of 10,627 feet. A test from 10,583 feet to bottom brought forth a fountain of only salt water. It was nearly two years ago since Richfield poked into Eocene production and thereby paved the way for tests directed at this formation in many valley areas. Location of the duster was about a half-mile southeast of the Eocene exposure, which started off at the rate of 1200 barrels of 35.3 gravity oil daily.

The company has also recorded an abandonment in the Los Lobos sector on the San Emidio Ranch. San Emidio No. D-2 on Section 3-10n-21w, an extension test, quit at 9967 feet. It was a mile southeast of the discovery well, completed last month for new Reef Ridge sand zone production.

Don Davis is handling the engineering work for McMullen & Grother's Bates Estate No. 16-20 wildcat, in the primary stages on Section 20-25s-19e and east of the Devils Den field. Southwest of the Lost Hills field, Texaco's Occidental NCT-3 No. 1 on Section 26-26s-20e has gone the way of all dusters at 5043 feet.

New McLure Test

Standard Oil Company has spudded and is drilling steadily on down with its Avenal Land & Oil Company No. 22 wildcat venture on Section 13-24s-17e in Kings County's McLure Valley.

Destined to drill to a depth no less than 5000 feet, the well is three miles northwest of Reserve Oil's Orchard No. 48-20, finaled some months ago for light oil from 4390 to 4480 feet.

Caminol Company evidently has chalked up a new gas discovery in the Pyramid Hills with its Dagany No. 1 wildcat on Section 33-24s-18e. The project, which at last reports was drilling ahead below 4600 feet, showed gas in quantity on test of the interval of 3893-4160 feet. Ancora Corporation's Pyramid No. 1

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wildcat on Section 16-24s-18e was said by field men to have recovered gassy, muddy salt water on test from 3370 to 3485 feet.

Equipment is on location for W. W. Holmes, Operator, Whittier No. 2 wildcat on Section 32-23s-22e near Alpaugh. Carpenter No. 1 is a location on Section 33-23s-22e. Continental Oil's Boston Land Company No. 1 in Section 31-20s-19e on wildcat ground near Huron has faded out of the development picture at a dry 3888 feet.

In San Benito County's San Justo area, The Texas Company's Nutting No. 1 test on Section 32-12s-5e was a production failure to 9032 feet and as a result written off. W. W. Holmes' Rudolph No. 1 no great distance from King City on Section 4-18s-9e is on the pump at a plugged depth of 1200 feet, with accurate gauge yet to be announced.

Southeast of the town of Livingston, Central Counties Oil & Gas Corporation is ready to drill its Joseph No. 1 exploratory well on Section 25-6s-11e, Merced County. Tide Water Associated has pulled out at 2955 feet with its Redman-Stone No. 1-19 test on Section 19-10s-14e in the Chowchilla gas area, Madera County.

Union Oil Company has officially announced that its Spieler No. 27-26 wildcat well on Section 26-20s-16e in the Guijarral Hills area of Fresno County has stabbed a new pool. Formation tests already run in the intervals of 8814-8838, 8834-8858, and 8858-8878 feet have been redolent with promise. Union, which holds some 600 acres round-and-about the discovery, is drilling on down.

East of Lloyd Harnish's discovery well in the West Guijarral Hills, Standard's No. 33F-3 well is drilling at 4450 feet. At all other directions from the pool opener, tests have been taken down and jarred expectations by ending up dry.

Brown Drilling Company has been chosen to supervise work on Franco Western Oil Corporation's Shiells No. 1 wildcat test on Section 4-16s-15e near Cantua Creek. Four miles northeast of the Helm field, Fowler Drilling & Production Company is busy on Lytle No. 1 test on Section 8-16s-18e. Under lease are 2560 acres embracing two sections of the August S. MacDonald property and two sections of the William Noble ranch, with the drill site on the MacDonald land. Signal Oil & Gas Company control a large spread of ground in the area, among other operating organizations.

A depth of 5183 feet in the Cretaceous formation spelt out abandonment for Steele Petroleum Corporation's Steele-Cuyama No. 1 venture on Section 10-10n-27w in Cuyama Valley. Cellar is in for Cuyama Valley Hills Oil Company's McPherson, No. 1 try on Section 21-10n-27w. Prehn & Scott's C. & H. No. 1 wildcat is idle at 1736 feet on Section 18-10n-27w. Fishing at present occupies the attention of Richfield with its Fisher No. 1 on Section 2-9n-27w. The test is down 5949 feet.

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Offshore Oil Survey Under Interpretation

Under way is a detailed analysis and accurate evaluation of records assembled on the recent seismic study conducted from Seal Beach to Long Beach inner harbor. These operations were a part of a series of coastal tests from Oregon to the Mexican border, undertaken by Standard, Western Gulf, Richfield and Tide Water Associated. The 45-pound charges of black powder caused 200-foot geyers. Encased in floats, recording instruments were spaced 35 feet apart on 1200 to 1500-foot long cables stretching in an L-shape from the mother ship.

In the Long Beach townlot area, Keans-Springmann and Stipek, Inc. is apparently making rapid progress with a leasing campaign on a triangular parcel involving some 2000 property owners and more than 500 acres of ground. The leases are on the subsurface mineral rights and specify a royalty of 25 per cent and a yearly rental of $250 an acre. Limited on the east of Pine avenue and south by the ocean, the triformed block starts at 10th street and Pine avenue and follows a diagonal line to a point not far east of Cherry avenue. The lease organization during 1947 and 1948 tied up extensive land for the Doheny interests at East Long Beach. Approximately 5000 signatures were

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written on this community lease. Later the company put together a community lease for Continental Cons. Oil Company in a portion of the area now being taken.

Topanga Canyon Test

The oil fraternity is following with more than ordinary interest the exploratory well drilling on Section 30-1n-16w on the north slope of the Santa Monica Mountains and near Topanga Canyon. The test two miles south of Ventura boulevard, is the responsibility of Logan Goodknight, in association with other oil men. It is flying the banner of Atlantic Drilling Company, the contractor, and is known as Nettleship No. 1. The project is the initial test of a direct method of finding oil, based on the soil bacteria theory, generated to the point of true prediction by Goodknight of oil in place. Although the area under test has not won the general favor of geologists, the operator anticipates penetration of oil sand, excepting operational risk and errors, and a producer scored. Goodknight has let it be known that he can visually detect surface signs of fossil remains of oxidizing micro-organism which have lived on nothing else but ethane and propane. Languid escape of these gases through geologic ages and the consequent growth of bacteria colonies have left a pattern or fringe of radiance over an oil structure. This is the viewpoint of Goodknight and is the first consideration in locating wells by the bacteria method.

Seaboard Oil Company's No. 52-23 wildcat well on Section 23-2n-16w in the Northridge area continues to drill steadily ahead below 1500 feet. Terminal Drilling Company is contractor. At Castaic, the company has just started its Wickham-USL No. 84-34 on Section 34-5n-17w, with International Drilling Company in charge. Northeast of Castaic, Standard Oil's Lyons No. 1 wildcat on Section 7-5n-16w has been placed on the pump at an effective depth of 1690 feet. Drilled to an original bottom of 2172 feet, representative yield has not yet been established.

In the San Fernando area, Standard's Mission No. 5-2 test on Section 2-2n-16w is drilling at 2000 ft. Mission No. 6-2A on the section is redrilling at 6800 feet.

Inglewood Forsaken

The area west of Prairie avenue, between Manchester terrace and Grace street in Inglewood has seen the last of oil wells which for 20 years marked the terrain. Basin Oil Company's York-Smullin well, which for some years has not been disposed to produce, has been removed to allow sale of the property at Prairie avenue and Queen street. A number of other wells in the area were recently plugged and abandoned to make room for residential and medical development close to the Daniel Freeman Memorial Hospital, nearing completion.

New Los Angeles Basin dusters included Midway Drilling Company's 1429-foot hole on Section 23-3n-17w at Simi, The Texas Company's Hodges No. 1 on Section 7-4s-9w in the Olive area, a 7075-foot duster, and Tide Water Associated's Bryant Ranch No. 1 on Section 21-3s-8w in the Puente Hills.

It quit at 5913 feet.

The Texas Company, which appears to have turned up something interesting with its Airport No. 1 well on municipal ground at Long Beach, has started the drill in another test at Weldon Canyon. Texaco's Eadie No. 2 is on Section 23-3n-16w or about three-eighths of a mile northwest of the No. 1, which quit last November at 8010 feet. The Airport wildcat is testing after setting 7-inch pipe at a point above bottom at 13,016 feet.

Southwest of Blythe, the Campbell-Egger-Rottman wildcat continues to dig on down at a depth last reported around 1200 feet. J. B. Nelson is using a contract rig to take the well down on Section 6-11s-21e, Imperial County.

In the Yucca Valley country of San Bernardino County, Retari Company, Inc., Retari No. 1 explorer is drilling ahead in the neighborhood of 600 feet, said field men.

On the premises around Corona in Riverside County, H. & W. and Associates, Ltd., evidently have reached a depth somewhat above 900 feet with Boyd No. 1 wildcat on Section 28-4s-6w. Texaco's Stone NCT-1 No. 1 on Section 35-3s-5e at Edom Hill has started.

Newport Test Drills

At Newport Beach, where Monterey Oil completed a well in tidelands property last December, the company is making hole below 3200 feet with its No. 2 offshore well on Section 29-6s-10w, Orange County. Monterey's drill site, one and one-half miles offshore Seal Beach, is expected to be completed in time to permit drilling on an extensive state lease by early spring. Down Sunset Beach way, B. & F. Oil Company's B. & F.-Lomita No. 1 wildcat on Section 19-5s-11w is idle for a time at 600 feet or thereabouts. La Habra is the scene of a test in the initial phase and undertaken by E. H. A. Andrews on Section 8-3s-10w. It is named Lochman No. 1

Prospects at this writing appear good for a satisfactory producer at Bandini in East Los Angeles for General Exploration Company. Its CCMO No. 2 was carried to below 7000 feet and for all reports cored enough oil sand to "bring home the bacon." The well showed a faulting condition. Located some 1600 feet southeast of the discovery, the No. 2 is higher on structure than was expected, a turn of events, probably due to faulting.

St. Anthony Oil Corporation is preparing to take down two new wells in the Rosecrans field. They are Gordon No. 9 and No. 10 on Section 19-3s-13w. Camay Drilling Company will take down No. 9, and Atlantic Drilling Company, No. 10.

International Drilling Company has been awarded contract on Ridge Hill Oil Company's Ridge Hill No. 4 on Section 5-3s-11w in the Santa Fe Springs field.

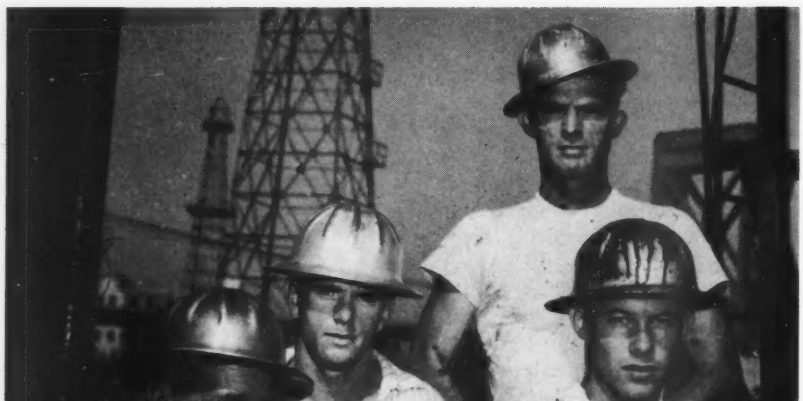
Goleta Wildcat Drilling Ahead

Mohawk Petroleum Corporation has initiated drilling operations with its Santa Barbara Co. No. 1 wildcat well located approximately 1050 feet south and 190 feet west from the southeast corner of fractional Section 2-4n-28w in Section 11-4n-28w. Designed as a 1500-foot Vaqueros test, the well is about 650 feet northeast of Standard Oil's Santa Barbara Co. No. 1, drilled to 2472 feet and abandoned in January of 1930. Signal Oil & Gas Company's Signal-Dos Pueblos No. 1 test on Section 1-4n-30w in the Elwood area continues to drill deeper at 3530 feet in the Orcutt area, Los Nietos Company's Madden No. 22-34 on Section 34-10n-34w is still drilling normally ahead. Depth last reported was 3853 feet.

General Petroleum Corporation, which two months ago opened its first important gas production in Northern California with a deeper pool discovery at Beehive Bend, is drilling below 3400 feet with a follow-up well on projected Section 26-19n-2w, Glenn County. The new well, Navarro No. 1, is one mile northwest of the deep zone discovery well on the McGowan lease. General brought in McGowan No. 1 from the interval of 4945-4961 feet for natural gas at the rate of 2,300,000 cubic feet a day through a 21/64-inch orifice. Other sand picked up around 3650 feet on test put out at the rate of 4,000,000 cubic feet of gas daily. Credit for opening the Beehive Bend gas field goes to Sunray Oil Corporation. Since discovery a year ago, Sunray has added several producers there. Geepee stepped out more than a mile south of production to pry out the new and deeper sand.

Richard S. Rheem as operator has completed another producer in the Princeton area of Colusa County. Southam No. 2 came in from a total depth of 2400 feet for 4,900,000 cubic feet of gas a day. The Texas Company's East Livermore wildcat Maud Stanley No. 1 on Section 20-2s-2e, Alameda County, is making hole at 4925 feet. At Point Reyes in Marin County, P. M. Oil & Gas Company's

Union Pacific's Well No. 606-R in the Wilmington field with Terminal Drilling Co. doing the work. Left to right: C. Branscon, floorman; Robert Noh, floorman; J. R. Dickinson, driller; "Rocky" Boozer, floorman.



Union Pacific R. R.'s well No. 327-R on Terminal Island with Pacific Drilling Co. putting down the hole. Left to right: J. McGearey, floorman; R. L. Watkins, driller; G. J. Griffin, racker (rear) W. Collins, derrick.

P.M. No. 1 wildcat on Section 36-3n-9w is idle at 1671 feet with drill pipe fish in hole. Top of fish is placed at 1610 feet. West of Watsonville in Santa Cruz County, Texaco's J. H. Blake on Section 12-11s-1e is down 4703 feet, but fishing. General Petroleum's Guilde-Court No. 1 wildcat in the Saxon area of Yolo County also is fishing drill pipe stuck at 6414 feet. Present depth of the hole is 6436 feet.

Simi Test Drills

Macson Oil Company is drilling another test in the Simi area. Its Strathearn No. 2 on Section 6-2n-8w is digging several hundred feet below grass roots. The company recently completed its No. 1 on the section for 8 barrels of 31.2 gravity oil a day from a depth plugged back from 2828 feet to 665 feet. R. B. Jackson's R & G No. 1 test on Section 17-2n-18w is idle at 3901 feet.

Drilling has reached 4300 feet with Continental Oil Company's Berylwood Investment Co. No. 1, a wildcat effort on Section 18-2n-20w at Las Posas. General Petroleum's Cosby State No. 1 test near Fillmore on Section 24-4n-19w is on the way down.

Standard's Sespe Ranch No. 1 prospect job on Section 27-4n-20w in the Fillmore area has been redrilled to 14,000 feet and in so doing confirmed commercial production of gas. South of Fillmore, The Texas Company's Kenneth H. Hunter River Ranch wildcat on Section 36-4n-20w has started work.

In the Oxnard area, Standard has two wells going and the Lloyd Corporation, one. Idle at a plugged depth of 3500 feet describes the present position of Harry C. Long's Burson No. 2 on Section 6-3n-19w at Basolo. Total bottom is 3906 feet.

Tar Springs Wildcat

Casing has been run and cemented at a point near bottom at 9867 feet in Nelson B. Hunt's wildcat well on Section 25-32s-14e on the Tar Springs Anticline, San Luis Obispo County.

In the general vicinity of the North Kirby Hills Shell Oil Company has on its drilling calendar a new test known as Unit A No. 1 and located on Section 6-4n-1e, Solano County. Rio Hondo Oil Company's scheduled test in the Freeport gas area of Sacramento County is still a location.

At Moody Gulch in Santa Clara County P. A. Kinard's No. 1 well on Section 8-9s-1w is idle at 966 feet. Likewise inactive is Hugh McMillan's McMillan No. 1 well on section 36-11s-3e in the Sargent field. The drill stopped at 1188 feet.

In Ventura County's Tar Creek area, Western Empire Petroleum Company plans the early drilling of a well in Section 28-5n-19w on the Outlook lease. The company has 270 acres under lease there which offsets Union Oil Company's fee property, Western Empire's lease calls for the drilling of five shallow and one deep well. Western Empire maintains offices in Salt Lake and Los Angeles.

Jack Herley's J. H. No. 3 well on Section 6-1n-21w in the Oxnard field is ready for the final touch at 2800 feet. Herley, by the way, was among the first oil field supply dealers on Signal Hill.

L. B. O. D.'s W-311 being put down by Camay Drilling Company on Terminal Island. Left to right: R. C. Coley, driller; Al Trotter, floorman; Bill Goodman, floorman; and Ed Dean, derrickman.

With Drilling Contractors

Australian Oil Search Intensified

The recent discovery of oil in the Perth area of western Australia has aroused the interest of the petroleum fraternity throughout the world. A new exploratory campaign is materializing on the Cherwell Creek Anticline in the Mayborough Basin in Queensland, eastern Australia. The campaign is sponsored by Lucky Strike Drilling Company of Tulsa, Okla. Gene Goff, president, and Robert Kamon, secretary of the company, have arrived in Australia, after taking an overseas plane from San Francisco on January 14. Reports from the country "down under" disclosed that geological maps prepared by the Australian Bureau of Mines have been compared with U. S. Geological Survey maps of this country. Most interesting is the fact that the comparison indicated the Mayborough Basin was geologically of the same general pattern as the Los Angeles Basin. Lucky Strike's initial test is set on a 3,648,000-acre block which was obtained a year ago from the Queensland Government. This will be the first full-scale exploration to follow the discovery scored by Cal Tex Oil Company late last year at Perth, with Brown Drilling Company as contractor. The Cal Tex find is about 3000 miles west of the Queensland prospect.

Anglo-Iranian Oil Company, Vacuum Oil Company, a subsidiary of Socony-Vacuum Oil Company of New York, and the Zinc Corporation, Ltd., are preparing to join forces in a concerted move to search for oil in Australia. The Zinc Corporation is one of Australia's largest mining companies, with head offices in London, Eng. The three overseas companies will explore for oil as shareholders of Frome Broken Hill Property, Ltd. Frome Broken Hill was organized in 1946 as a joint subsidiary of the three companies to explore for petroleum in Australia.

The discovery of oil in Australia appears to have caused more excitement than the discoveries more than 60 years ago of the great oil fields there which still are yielding rare metal.

Commenting on current affairs of the oil industry, Brad Mills, AAODC executive secretary said:

"No problems appear on the horizon that cannot be solved by honoring the age-old law of supply and demand. This involves temporary cutbacks in crude oil production, adjustment of imports to whatever level is required to protect both the domestic producer and the importer from unnecessary surpluses and continued sensible development of our own reserves to guarantee oil in the face of any emergency. All this should be done on voluntary basis, free from collusion or the threat of Government regulation."

Drilling & Production Company has moved to new quarters in the Coastal Engineering Building on L street in Bakersfield. Offices formerly were on Truxtun avenue.

With most of the larger operating organizations in California holding protection acreage in Arizona, it is interesting to note that George Noland of Farmington, N. M., has the contract to take down Shell Oil Company's wildcat in the northeast corner of Apache County, northeast Arizona. The drill site is one mile from the Utah border.

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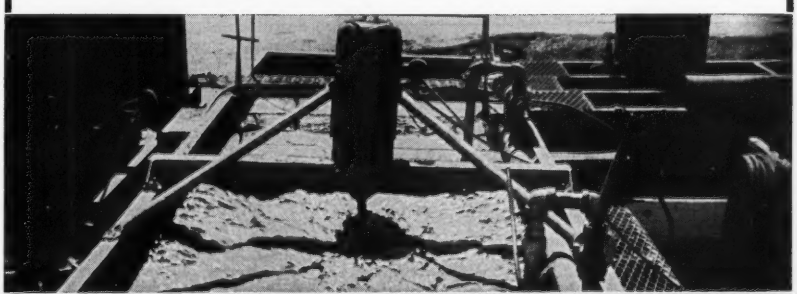

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Rocky Mountain NEWS

Colorado—Idaho—Montana—New Mexico—Utah—Wyoming—Western Canada

Canada

An initial potential of 1,420,000 cubic feet of gas per day has been recorded at the Dome Exploration and Joint Ventures No. 11-27, Netural Hills. Production is from the Viking sand which was topped at 2425 feet. Neutral Hills is 135 miles east of Red Deer, Alberta. Production casing has been set to 2398 feet. Candbridge Corp. drilled the well in which Dome Exploration and Joint Ventures each holds a 50 per cent interest.

Williston Basin Oil and Gas Co., a subsidiary of Federated Petroleums Ltd. and Frohisher Limited, has announced location for its second test of the Swift Current area of Saskatchewan. The Swift Current Harlow No. 1-8, staked for lds 1,18-15-13w3 is one mile south of Swift Current where Williston recently abandoned a townsite well.

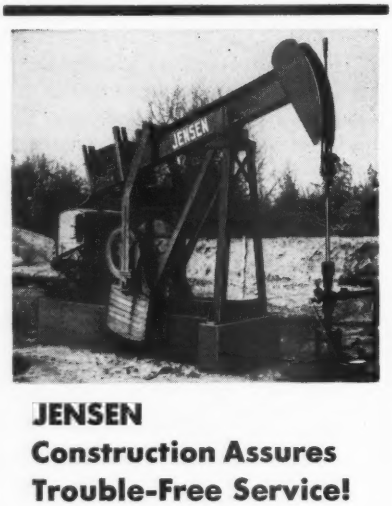
Newest success in the Pembina field, 60 miles southwest of Edmonton has been tallied by Socony-Vacuum and associated operators. The Socony-Seaboard Pembina 21-4, obtained 3000 feet of clean oil on a test of the Cardium between 5203-18. Gas was to the surface in three minutes. The Cardium sands were topped at 5206, 47 feet higher than in the discovery well which is one mile south of the 21-4. Production casing will be run to an approximate depth of 5300.

Socony has a 50 per cent interest in the well. Other participators include: Seaboard Oil, Honolulu Oil Corp. each 16 2/3 per cent; Merill Petroleums, 10 per cent; Cancoil Oil and Gas 6 2/3 per cent.

Ten miles south of Amerada's Sturgeon Lake field, Canadian Gulf Oil Co. has abandoned the Gulf Little Smoky 12. Total depth was 9550. Fifteen feet of oil zone was reported in the D3 Devonian but it did not test out in commercial quantity. Future Gulf plans for drilling have not been announced.

British - American Oil Producing Co. and Union Oil of California have teamed up to bring in the second biggest producer in the past 60 days in the Roselea area of southwestern Manitoba. The Gross 4-27, during tests, produced oil at a daily rate of 1776 barrels. In November this same team brought in the Gross 5-27 for an initial of 2500 barrels daily. The new well completed drilling at a total depth of 2102 in the Mississippian formation. Production casing was run to 2005 feet. It then swabbed the 1776 barrels through a quarter-inch choke.

Stanolind Oil and Gas Co. will drill three wells in the Pembina area. The new drilling sites are southwest of Edmonton, eight to 18 miles northwest of recent successes in Pembina area. Two of the wells will be drilled on a 20,000 acre reservation acquired from Hudson's Bay Oil and Gas under agreement from the Seaboard-Honolulu group. The third well will test 15,000 acres of crown leases farmed-out from Central Leduc Oils and Del Rio producers.



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Montana

A total of $410,789 was bid by oil operators as bonus for the lease of 17,147 acres of Fort Peck Indian reservation lands at a sale conducted Jan. 12. Top bid was Richfield Oil Corp's. $277.70 per acre. Average bid was $23.96. There were bids on 91 tracts of the 126 offered. Other high bidders were: Deep Rock Oil Corp., Ashland Oil and Refining Co.

The first use of the sand frac process in Pondera County has been apparently successful. At Pryde-Pond Petroleum reported recovery at the rate of 35 barrels oil and three barrels of water per day at the No. 1 Rispens, Midway area, Pondera County. The fractured zone was the Sunburst in the interval 1740-59. Other wells drilled in this same area have had good shows in the Sunburst but have not been successfully completed because the Sunburst was too hard and tight for production.

The fourth abandonment in township 27n-7e, Goosebill Butte, Chouteau County has been reported at T. F. Hodge and Associates' No. 1 Olson, 11-27n-e. Total depth was 2729 in

the Madison, topped at 2728. The well was acidized without result. All four wells drilled in this township have had shows in the Madison.

Willis-Amick is running casing at No. 1 Holman, 6-10n-25e, Devil's Basin, Musselshell County, where they have recovered clean oil from the Heath formation. A drill stem test in the interval 2113-63 feet recovered 453 feet of clean oil. Total depth is 2163. The well is 110 feet northwest of Farmers Union Exchange No. 2 NPRR, the discovery which had an initial gauge of 20 barrels per day from the same zone.

Richfield Oil Corp. has recovered 50 feet of oil on a drill stem test at its No. 1-A Tribal, 6-29n-51e, East Poplar, Roosevelt County. The test was in the Madison between 5793-6011. The wildcat is one and a half miles northwest of nearest production in the East Poplar area.

William Herbert Hunt has staked the second of six wells he plans for northwestern North Dakota. The wells will be on farm-outs from Stanolind Oil and Gas Co. The No. 1 Anderson, 25-157n-89w, Mountrail County, is about 13 miles northeast of the town of Stanley. The wildcat, which will test the Silurian at 9850 feet is 12 miles north of Hunt's No. 1 Dunham, a 10,000 Ordovican now drilling near the objective formation. Stanolind and Hunt each hold an undivided half interest in about 12,000 acres in the area. California Co. also has nearby acreage.

Carter Oil Co., Socony-Vacuum, and Sinclair Oil and Gas Co. are drilling ahead below 9315 at the No. 1 Lockwood, apparent Madison discovery, Carsin area, Dunn County. Previous tests had indicated a Madison discovery; later drill stem tests have recovered mud and water. Cores in the interval 9202-9315 were predominately hard and tight with oil shows in the fractures. The recovery of Madison oil was in the interval 9018-66 feet. The wildcat is ticketed to test the Devonian at 12,500 feet.

South Dakota

Shell Oil Co. has installed pump at the first commercial oil producer in South Dakota. It will continue to test No. 1 State A 9-21n-4e, which tested 135 barrels of oil and 133 barrels of water from 8660-90 feet in the Red River on its first 24-hour gauge. Shell has reportedly located an extension one-half mile south of the discovery. The wildcat is in the Custer area, Harding County, northwestern South Dakota.

Calvert Exploration will drill four wildcats in southeastern South Dakota, an area which has seen little drilling. The four will be taken to the granite expected at 4200 feet. Farmout arrangements have been completed with Hunt Oil Co. Nearest previous test was 22 miles northwest of the nearest Calvert location. Atlantic Refining Co., Sinclair Oil and Gas Co., Socony-Vacuum Oil Co. and Superior Oil Co. will all contribute. General Atlas, which drilled previously, abandoned its test at 4772 in the granite.

Wyoming

The firstNewcastle sand production in Niobrara County has been obtained by the three way venture of Cosden Petroleum Corp.-R. L. Manning Drilling Co.-Wind River Oil Co. No. 1A Govt., 3-40n-66w. The operators are building tank battery at their discovery which flowed at an estimated daily rate of 600 barrels. In carrying forward Newcastle trend production four miles the success also carried the trend across the Niobrara County line.

For Sale - Oil Royalties of Estate of Louise E. Dabney

All oil royalties owned by the estate are being sold.

There are 33 producing and 20 inactive royalty interests.

They are located, for the most part, in the Long Beach (Signal Hill) and Huntington Beach oil fields.

The monthly net income from these royalties is about $5,000.00.

An engineering report, and other pertinent information is available for inspection at the office of the estate.

ESTATE OF LOUISE E. DABNEY, Deceased
MILTON H. PHILLEO, Executor
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Los Angeles 15, California

Telephone: RIchmond 6118

Total depth was 7960 with production from the zone 7732-48 feet. The well is on Canada Southern Oils Inc. farmout.

Two other wildcats near the discovery are nearing final stages. Trigood Oil Co. is testing, with total depth at 7404, at No. 1-A Murray Govt., which is about two miles north of the discovery. It is in Weston County. Two miles southeast of the discovery Hayes and Harris Drilling and Oil Co. have perforated No. 1 Govt. between 7619-34 and are swabbing.

Northwest of the Niobrara discovery Trigood Oil Co.'s No. 1 Govt. Reed was dry in the Newcastle sand which was hard and tight at 8057 feet. This wildcat is the most southwestwardly so far drilled in the Newcastle trend.

Drilling in 1953 extended the Newcastle trend some 16 miles in a band three to four miles wide. During 1953 260 wells were drilled in Weston County 215 of them successes.

Delta Drilling Co. and Williston Basin Oil and Gas Co. have spudded the No. 1-A Govt., 6-39n-66w, as the most southerly test of the Newcastle sands. If it is a success it will carry production seven miles into Niobrara County.

L. J. Peterson will complete the No. 2 Wycol, 1-49n-92w, South Manderson, Big Horn County, in the Tensleep following recovery of 140 barrels of oil per day by swabbing. The well had saturation in the Phosphoria but will be completed as a Tensleep well because of marketing difficulty in moving the sour crude produced from the Phosphoria in this area. Total depth is 5994. The well is one-half mile east of the South Manderson pool discovery which found oil in the Phosphoria. There has been no previous production in the Tensleep between Manderson Unit and the Bonanza field.

North Dakota

Additional drilling is projected in the South Manderson area. Ajax Oil Corp. and Utah Southern Oil will drill the No. 1 Crusader Govt. in 13-49n-92w on a farmout from Crusader Corp.

In this same township Ajax Oil Corp. will reacidize at No. 1 Simic Govt., in the interval 6861-76 feet in the Phosphoria. There have been shows of commercial possibilities.

At their indicated Frontier discovery at No. 18-20 Tip Top Unit, Sublette County, General Petroleum is testing the Dakota between 8107 - 8122. Top of the Dakota was struck at 7932. With gas at the rate of 1,400,000 cubic feet per day from the tested interval 7225-61, the wildcat is an apparent Frontier discovery. It is about two and a half miles southwest of General Petroleum's Nugget discovery No. 4-X-12 G, which produced 266 barrels per day at completion in 1951.

El Paso Natural Gas has joined Continental Oil Co. for a Nugget test of the East Fontennelle Unit, Lincoln County. Location is northwest of Kemmerer. The East Fontennelle is south of the LaBarge field. El Paso Natural Gas has not been previously active in this southwestern Wyoming region. The block on which the wildcat will be drilled contains 8400 acres.

Stanolind Oil and Gas Co. have recorded a flow of 341 barrels per day of 42 gravity oil from their sixth pay discovery in the Beaver Creek field of Fremont County. The No. 30-M 10-33n-96w, is a Madison discovery. Total depth is 11,477, with casing set at 11,406. Production is from an open hole. Top of the Madison is 11,204.

If you can read the first two lines—don't worry!

Just call old Doctor Eubanks and say "Tiger Tooth." ★ His diagnosis will be that your *eyes* are okay—your *head* does *not* need to be examined—and you *won't* have any tong men injured from having tong dies slipping on hardened wear subs or tool joints. ★ Especially if you're using 'em in Web Wilson Tongs with the "Spiral" hinge pin arrangement that is years ahead in strength, safety and easy operation. ★ The name is Jess Eubanks; the phone is Miller 3-6767, at 1641 North Ventura Avenue, in Ventura-by-the-sea!

Colorado

Texas Co. has recovered 50 feet of slightly oil and water cut mud from a test of the Morgan formation, 6156-73, in its No. 1-A Knowlton, 9-4n-91w, Moffat Dome field, Moffat County. On earlier tests the well apparently recovered commercial quantities from the Shinarump. Previous shows also consisted of heavily oil cut mud from the Weber. Morgan was the primary objective. Drilling is below 6473.

With success apparent, two Morgan County discoveries are testing currently. Chittim and Allardyce have tested 250 barrels per day at their No. 1 Glenn, 32-2n-57w. Kimbark Oil has sandfraced and is putting on pump at No. 1 Queene, 25-1n-56w, at the Sand River discovery.

A discovery opening a "J" sand pool east of the "D" and "J" sand pools off Adena and North Adena pools has pumped 60 barrels per day. It is Creslenn's No. 1 State, 16-1n-56w. The new pool has been named the Cary field. The "D" and "J" sand pools in Adena and North Adena prompted the present high rate of exploration in Morgan County.

Utah

Three State Natural Gas has made additional shows at No. 1 State, 32-39n-23e, San Juan County. Oil and gas cut mud with substantial volume of carbon dioxide gas was recovered from a test of the interval 7532-50. Gas was to the surface in three minutes at a rate of 3,000,000 cubic feet per day. Also recovered was 370 feet of oil and gas cut mud, 150 feet of gas and mud cut oil, 60 per cent oil, and 50 feet of oil and gas cut mud and water. Tests are continuing with total depth at 7639.

Nebraska

A flow of 185 barrels oil per day is reported by Stanley T. Kiespert for his No. 1-A Long, in the Long Area, Kimball County. Production is from the "D" sand. The well is on a farmout from Superior Oil Co. which is spudding an off-set No. 64-10 Long.

Approximately one-half mile southwest of the Cook field but on a separate structure, Pubco Development Co. has reported a pump gauge of 190 barrels at No. 2 Franzen, 25-15n-48w, Cheyenne County. The operator has calculated a potential of 500 barrels per day.

API Research

(Continued from Page 4)

ogy has contributed general laboratory facilities, as well as the directors for the project's supervision. These arrangements have proved to be mutually satisfactory to the two organizations, and have resulted in the activities described herein. The project looks forward to completion of the development of methods for predicting the properties of complex hydrocarbon mixtures at equilibrium and to continued experimentation in the field of non-equilibrium behavior. In this field it is believed a number of useful contributions can be made.

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*Chairman, API Research Project 37 Advisory Committee; Union Oil Co. of California Research Center, Brea, Calif.

†Co.director, API Research Project 37; California Inst. of Technology, Pasadena, Calif.

[a]Figures refer to REFERENCES.

REFERENCES

[1] C. E. Beecher and I. P. Parkhurst, "Effect of Dissolved Gas upon the Viscosity and Surface Tension of Crude Oil." **Trans. Am. Inst. Mining Met. Engrs. (Petroleum Development and Technology) 74a,** 51-69 (1926).

[2] M. Benedict, G. B. Webb, and L. C. Rubin, "An Empirical Equation for Thermodynamic Properties of Light Hydrocarbons and Their Mixtures—I and II: Methane, Ethane, Propane and nButane," **J. Chem. Phys. 8,** 334-45 (1940) and **10,** 747-58 (1942).

[3] M. Benedict, G. B. Webb., and L. C. Rubin, "An Empirical Equation for Thermodynamic Properties of Light Hydrocarbons and Their Mixtures: Constants for Twelve Hyrdocarbons," **Chem. Eng. 47,** 419-22 (1951).

[4] M. Benedict, G. B. Webb, and L. C. Rubin, "An Empirical Equation for Thermodynamic Properties of Light Hydrocarbons and Their Mixtures: Fugacities and Liquid-Vapor Equilibria." **Chem. Eng. Progr. 47,** 449-54 (1951).

[5] M. Benedict, G. B. Webb, L. C. Rubin and L. Friend, "An Empirical Equation for Thermodynamic Properties of Light Hydrocarbons and Their Mixtures: Reduction of Equation to Charts for Prediction of Liquid-Vapor Equilibria," **Chem. Eng. Progr. 47,** 571-8 and 609-20 (1951).

[6] L. Onsager, "Reciprocal Relations in Irreversible Processes—I and II," **Phys. Rev. 37,** 405-26 and 38, 2265-79 (1931).

[7] S. Chapman and T. G. Cowling, **The Mathematical Theory of Non-uniform Gases,** Cambridge University Press, London (1939).

"State Registration of Engineers," Topic of Junior AIME Meeting

At the January 14th meeting of the of the AIME Junior Group of the Pacific Petroleum Chapter, Donald M. Baker and Jan Law discussed the historical background, principal functions, and present trends pertaining to registration of professional engineers in the State of California. Immediately following the prepared talks, members of the Junior Group rose to express their opinions of the present registration procedure and to offer suggestions regarding amendment of certain phases of the law.

First of the two guest speakers was Mr. Baker, of the Ruscardon Corporation. Mr. Baker pioneered the professional engineering registration movement in California, and justifies it on the following basis:

1. Through registration, the State vouches for a man's ability in his profession.
2. Through registration, the State has control over incompetent practices.
3. Through registration, an engineer develops a feeling of professional pride.

Mr. Law, formerly lecturer of petroleum engineering at the University of Southern California, and now a petroleum engineering consultant and acting commissioner of the State Registration Board, reviewed some of the trends in the registration of engineers:

1. The Department of Internal Revenue began requiring that appraisals of oil property for inheritance tax purposes be made by registered Petroleum Engineers.
2. Other federal bureaus, feeling their standards should be equally high, adopted similar requirements.
3. After the Long Beach earthquake, public opinion was strongly in favor of allowing only registered structural engineers to rebuild schools and other public buildings.
4. When a high pressure gas well developed mechanical trouble due to faulty casing design, and it appeared that a serious explosion might occur, citizens of the thickly populated area surrounding the well cited the incident as one which might have been avoided through registration of petroleum engineers.

Jan Law concluded by stating his opinion that in a very few years, only registered professional engineers will be able to practice consulting.

A question and answer period included the following:

Q. Isn't a drilling crew just as responsible for public safety as the engineer, yet they are not required to register?

A. As long as the fundamentals of design are there, minimum requirements are satisfied. Engineers, not drilling crews, perform the design function.

Q. Does failure to register deny a man the right to practice engineering?

A. Registration gives you the right to sign "Petroleum Engineer, Prof. Reg. No. .....". You generally have the right to practice regardless of registration.

Q. Doesn't the government protect people too much? Shouldn't people protect themselves?

A. It is the duty of the State to protect people against fraudulent practices.

Q. Do you think it is right that a petroleum engineer, who has satisfied his employer with his ability, be denied registration on the grounds that he no longer remembers certain sophomore subjects such as optics?

A. That is the way it is now set up.

Q. The petroleum profession often requires that young engineers travel from state to state. Are there reciprocal registration privileges between states?

A. So far, no allowance has been made for that.

Q. Why isn't the Engineering Fundamentals portion of the examination given at the end of the sophomore year, or conferred upon graduation from a recognized engineering school?

A. You men have the right to amend the existing law, providing you act as a well-knit group and properly present your proposals to the registration Board, the Legislature, or the Governor.

This meeting of the Junior AIME Group was the first of the 1954 series, and was conducted by the new chairman, J. P. Garten of the Long Beach Oil Development Company. The group meets at the Turf Club in Rivera on the second Thursday of each month.

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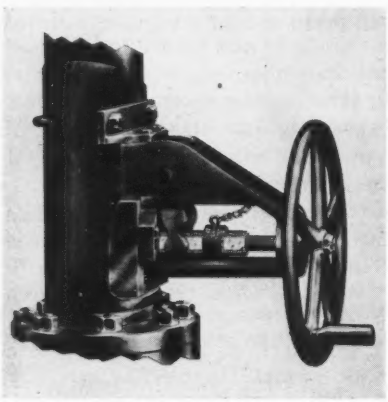


Especially designed for use with all BS&B diaphragm control valves, the new handwheel enables a plant to operate on an emergency basis.

The basic handwheel assembly has a high tensile iron fitted with oil impregnated bearings. The hand wheel screw is made of non-galling 18-8 stainless steel with a high tensile aluminum bronze nut for transmitting power through a cast steel fork to the valve stem.

When equipped with the Type "Y" Handwheel, BS&B control valves can be manually positioned in either direction independently of the normal controlling impulses. The handwheel mechanism provides stops so that travel can be set to cover any portion of the complete valve stroke.

Axelson Triax Pump

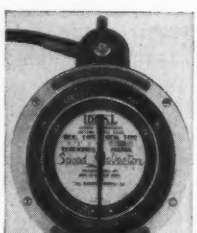
A chromium plated three tube pump with traveling barrel has been added to the Axelson line. This Axelson "Triax" Pump is for specific use where there is difficulty with heaving or floating sand. Lower fluid levels in sand formations will greatly increase the use of this pump. The tubes will withstand severe abrasive and corrosive conditions.

The Axelson Triax Pump is available in three lengths for 2" and 2½" tubing. The 12-foot pump will operate efficiently, under normal conditions, in wells 2,000' in depth, the 15-foot pump at 3,500' and the 18-foot pump at 5,000'.

Maximum stroke length of 51 inches is available in the 12-foot pump and 87 inches in the 15-foot and 18-foot pumps.

All fittings possible have been made with API elements, assuring maximum amount of interchangeability.

Martin-Decker Ideal Speed Selector



The Martin-Decker Ideal Speed Selector is an instrument for selection of most efficient drawworks hoisting speed. It interprets the tension in the dead line and indicates the proper speed ratio for hoisting. It is more easily used than any tabular data would be, being mounted in the weight indicator panel where it can be read conveniently and easily.

Use of the Speed Selector in hoisting drill pipe will assure the fastest and most efficient operation of the drawworks within its rated capacity. Specifically, the Speed Selector avoids:

1. Use of speed ratios which are too high for the load with consequent overloading of chains, clutches, and engines.
2. Use of speed ratios which are lower than the load requires, with subsequent loss of valuable time.
3. Use of power beyond the rating of the drawworks, on rigs employ extra power for pumping requirements.

The instrument is provided with bracket, bolts built-in pulsation dampener, self-sealing disconnecting couplings, hose, and a tee for installation in the Martin-Decker instrument panel. Each Speed Selector is calibrated for a particular combination of drawworks and Wire Line Anchor. Its use is recommended only for the Ideal Types "D", "E", and "F" Anchors. With the Speed Selector it makes no difference how many lines are strung on the blocks since the calibration is based on the tension in a single line. For further information write Martin-Decker Corporation, Long Beach, California.

Axelson Axtrahard Polished Rod

Over three years of research and testing have gone into the development of the new Axelson Axtrahard Polished Rod. The Axtrahard has proven itself under most severe abrasive conditions. Because there is no plating to strip off, Axtrahard also combats corrosion. It is especially adapted to water flood areas where sand is abrasive and where regular polished rods wear out prematurely. The Axelson Axtrahard is a premium polished rod and sells at a premium price. The addition of Axtrahard to the already extensive line of Axelson polished rods affords production engineers a wider selection than ever before.

"I'm proud to be a Savings Bonds salesman for Uncle Sam..."

CHARLES M. WHITE
President
Republic Steel Corporation

"I'm proud to be a Savings Bonds salesman for Uncle Sam and I urge every business executive in the nation to advance the cause of American enterprise in this way.

"Every one of us at Republic Steel is proud of the results of our Payroll Savings campaign: 96.7 per cent of our employees saving systematically from each pay in U. S. Savings Bonds. These results were possible only because all 68,344 of us at Republic were part of an enthusiastic team. We feel that this is the best way we can demonstrate our appreciation of the efforts to have a sound dollar and a stable economy."

• 96.7% of Republic Steel's 68,344 employees—over 66,000 men and women—are enrolled in the Payroll Savings Plan.

• These 66,000 members of Republic's "enthusiastic team," as Mr. White so aptly terms them, are investing more than $16,000,000 per year in U. S. Savings Bonds.

• In addition to building personal security, these men and women of Republic are making a very important contribution to America's "efforts to have a sound dollar and a stable economy."

Certainly Republic Steel's Payroll Savings record is outstanding—one of the best in the country. But it is not unique. Other companies have comparable records, measured in percentage of employee participation, or in annual Savings Bond purchases.

In every company with a high percentage Payroll Savings Plan you will find that the president or top executive appreciates the importance of the Plan and what it means to personal and national security. He knows that 45,000 companies have Payroll Savings Plans . . . that 8,000,000 employees of these companies are investing more than $160,000,000 per month in Savings Bonds . . . that the cash value of Savings Bonds held by individuals today is more than 36 billion dollars—and rapidly mounting, thanks largely to the steadily increasing family of Payroll Savers. He is 100% behind his company's Payroll Savings Plan, and everybody in the company knows it. He takes personal pride in watching employee participation grow to 60%, 70%, 80%, or, perhaps, the high 90's.

If you are not making this important contribution to America's effort for a sound dollar and a stable economy, a wire or letter to Savings Bonds Division, U. S. Treasury Department, Washington, D. C., will bring prompt cooperation from your State Director. He will show you how easy it is to join Mr. White and thousands of other executives as a Savings Bond Salesman for Uncle Sam, with a company Payroll Savings Plan that you can be proud of.

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CALIFORNIA OIL WORLD

THIS LAUGH

OFF!!

It's good for a man to have an occasional humbling experience, to cut him down to size, such as getting on the same elevator with a basketball team.

For forty years they had been hitched, and for forty years she had made the living. Then he died. The thrifty widow instructed that his body be cremated and the ashes placed in an hour glass. Carefully placing it on the mantle, she sat down to rock and said, "Now, you worthless bum, at last you're gonna work."

"A year ago," said the jobber, "I had enough money to choke a horse."

"What happened?" prompted his friend.

"I made a slight error," the man admitted, "I bet on him instead of choking him."

Two rabbits were shipped to the East by air express. The carton arrived with two rabbits. That was fast transportation.

Junior: "Mamma, Daddy wouldn't murder anybody, would he?"

Mother: "Gracious, no. What made you ask?"

Junior: "Well, I heard him down in the basement just now saying, 'Let's kill the other two, Jim.'"

"Let me kiss those tears away, sweetheart," begged the petroleum engineer. She fell into his arms and he was very busy for a few moments, but the tears flowed on.

"Will nothing stop them?" he asked breathlessly.

"No," she murmured, "it's hay fever, but go on with the treatment."

County agent: "Have much trouble with insects in your corn?"

Farmer: "Nope. The corn I make dissolves the insects."

The clergyman was preparing his sermon as his small daughter watched.

"Daddy," she asked, "does God tell you what to say?"

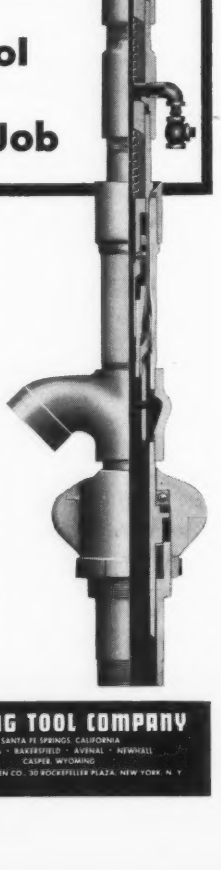
"Of course, honey," he answered, 'Why do you ask?"

"Oh," was her reply."Then why do you scratch some of it out?"

Fellow to blonde at cocktail party: "May I join you?"

Blonde: "Am I coming apart?"

One Pressure Control Useful For Every Wire Line Job



THE BOWEN WIRE LINE PRESSURE CONTROL is standard equipment for all wire line operations, such as coring, surveying, temperature recording, and swabbing that are conducted while rotary drilling and circulating equipment are in place. By enabling the operator to maintain rotation and circulation during such operation, the Bowen Wire Line Pressure Control avoids blowouts and fishing jobs because it prevents gas heads, settled fluid, and stuck drill pipe; it makes the use of wire line tools simple and safe; and it eliminates the necessity of flagging the line—thus permitting faster trips out of the hole.

Use the BOWEN PRESSURE CONTROL whenever you want maximum well control during wire line operation. Available in sizes to fit your drilling string.

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